

This Page Is Inserted by IFW Operations
and is not a part of the Official Record

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

IMAGES ARE BEST AVAILABLE COPY.

**As rescanning documents *will not* correct images,
please do not report the images to the
Image Problem Mailbox.**

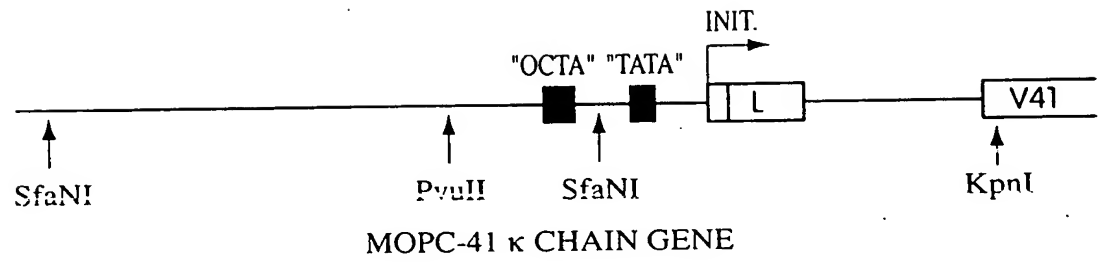


Fig. 1A

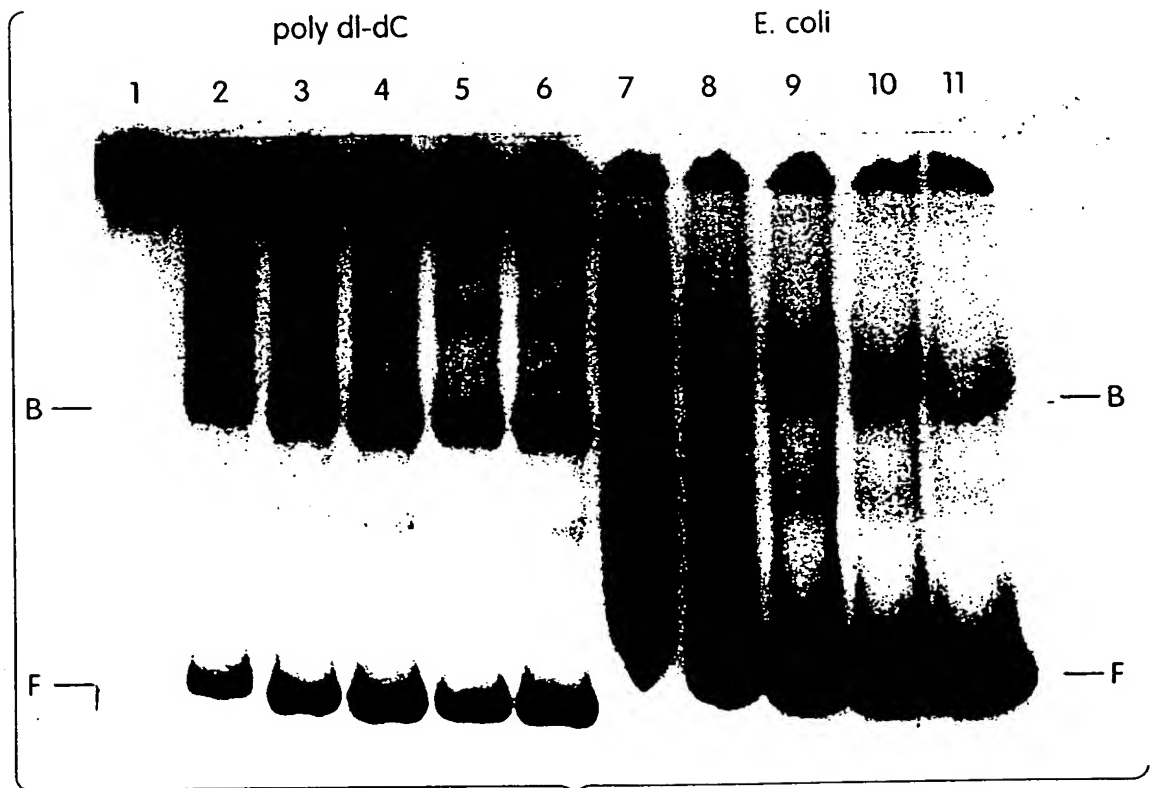


Fig. 1B

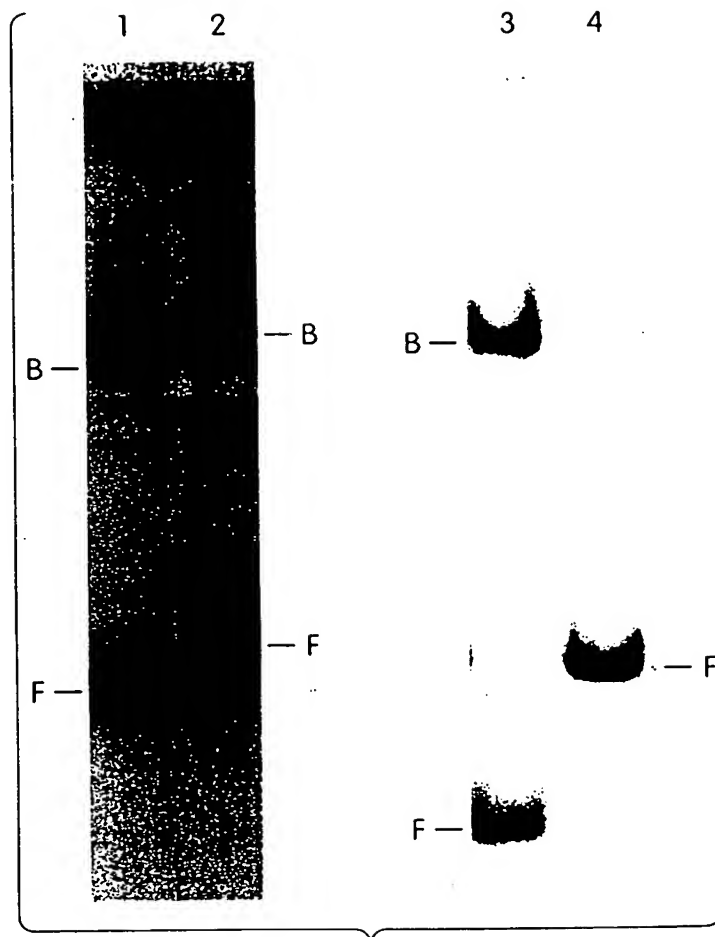


Fig. 1C

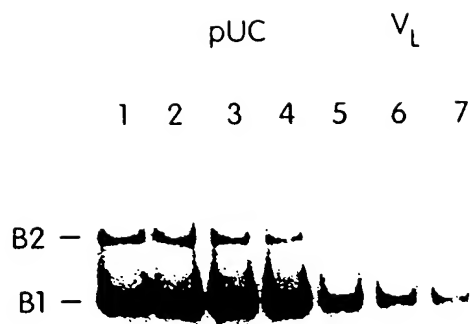


Fig. 2A



HeLa

Fig. 2B

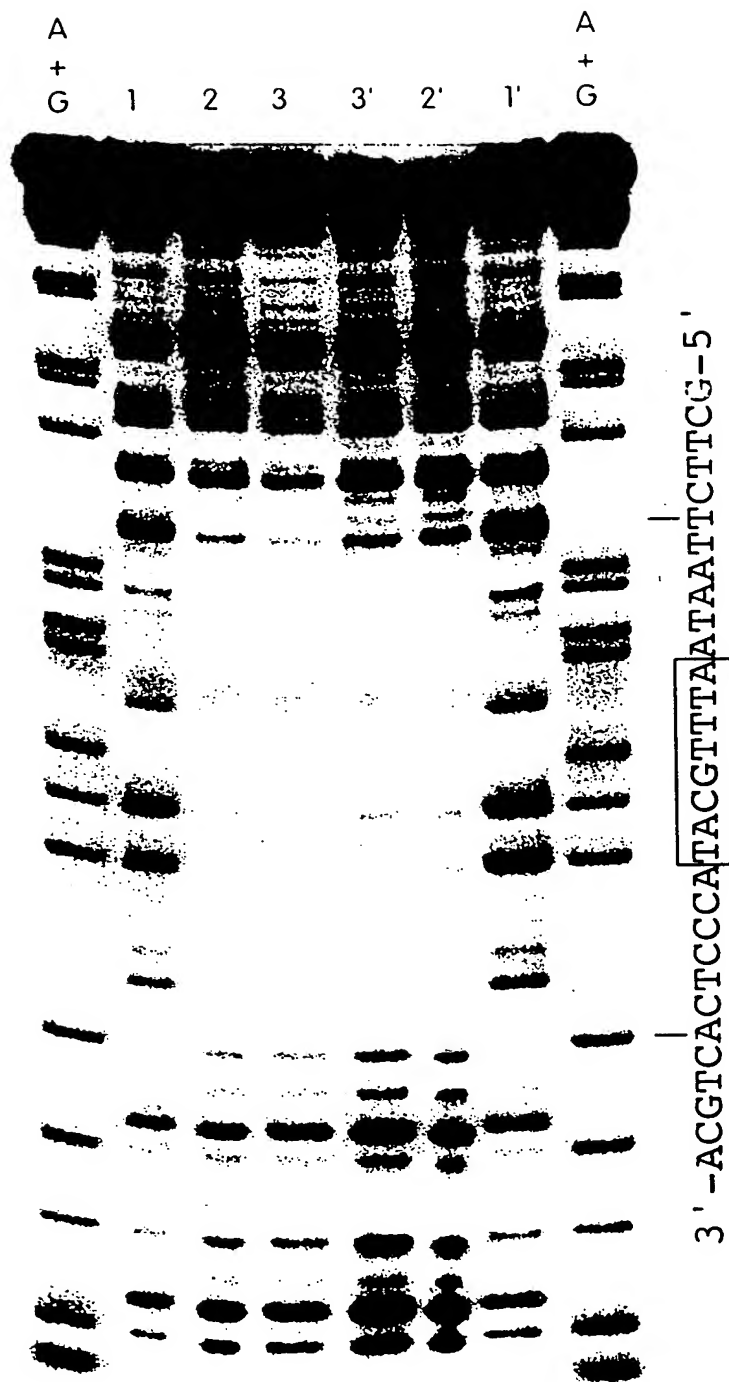


Fig. 3

	*	*
V_L coding strand (-66)	TCTTAATA	ATTTGCAT ACCCTCAC
V_H non-coding strand (-50)	CGCACATG	ATTTGCAT ACTCATGA
$J_H - C_\mu$ coding strand (166)	CCTGGGTA	ATTTGCAT TTCTAAAA

Fig. 4A

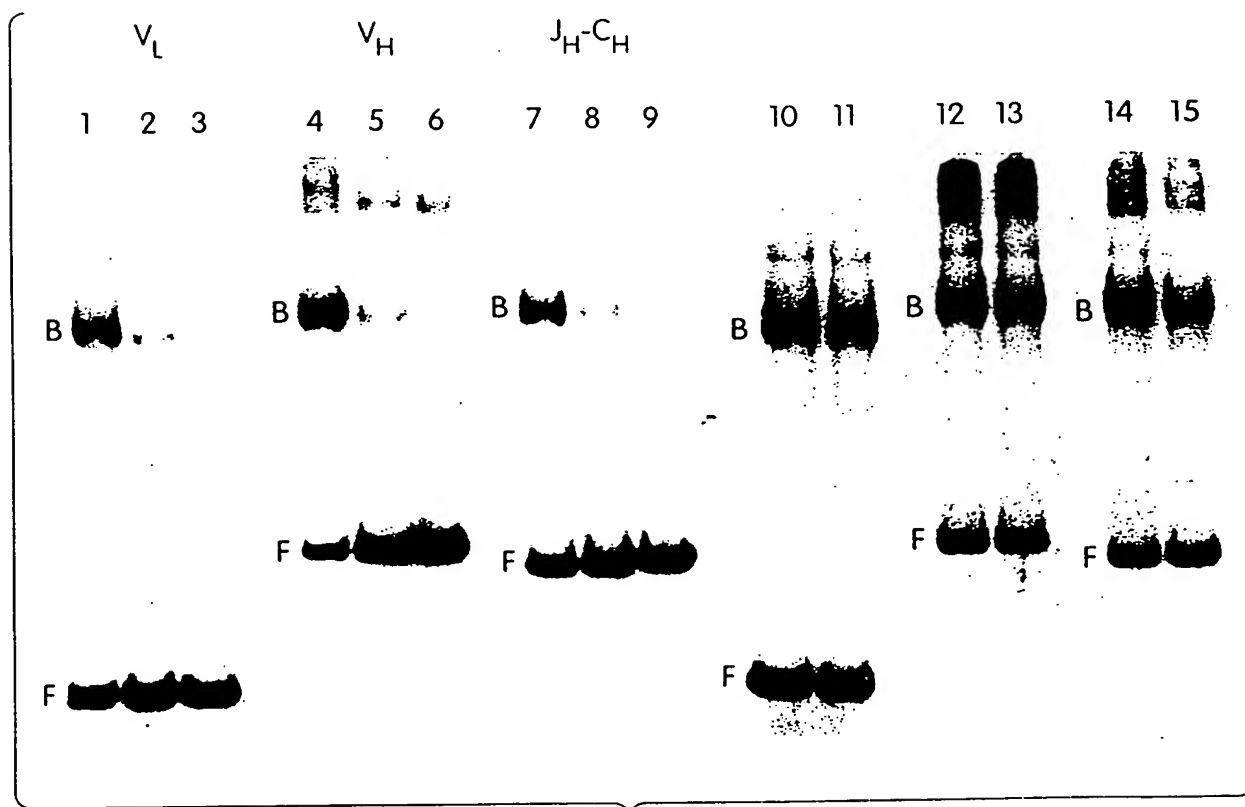


Fig. 4B

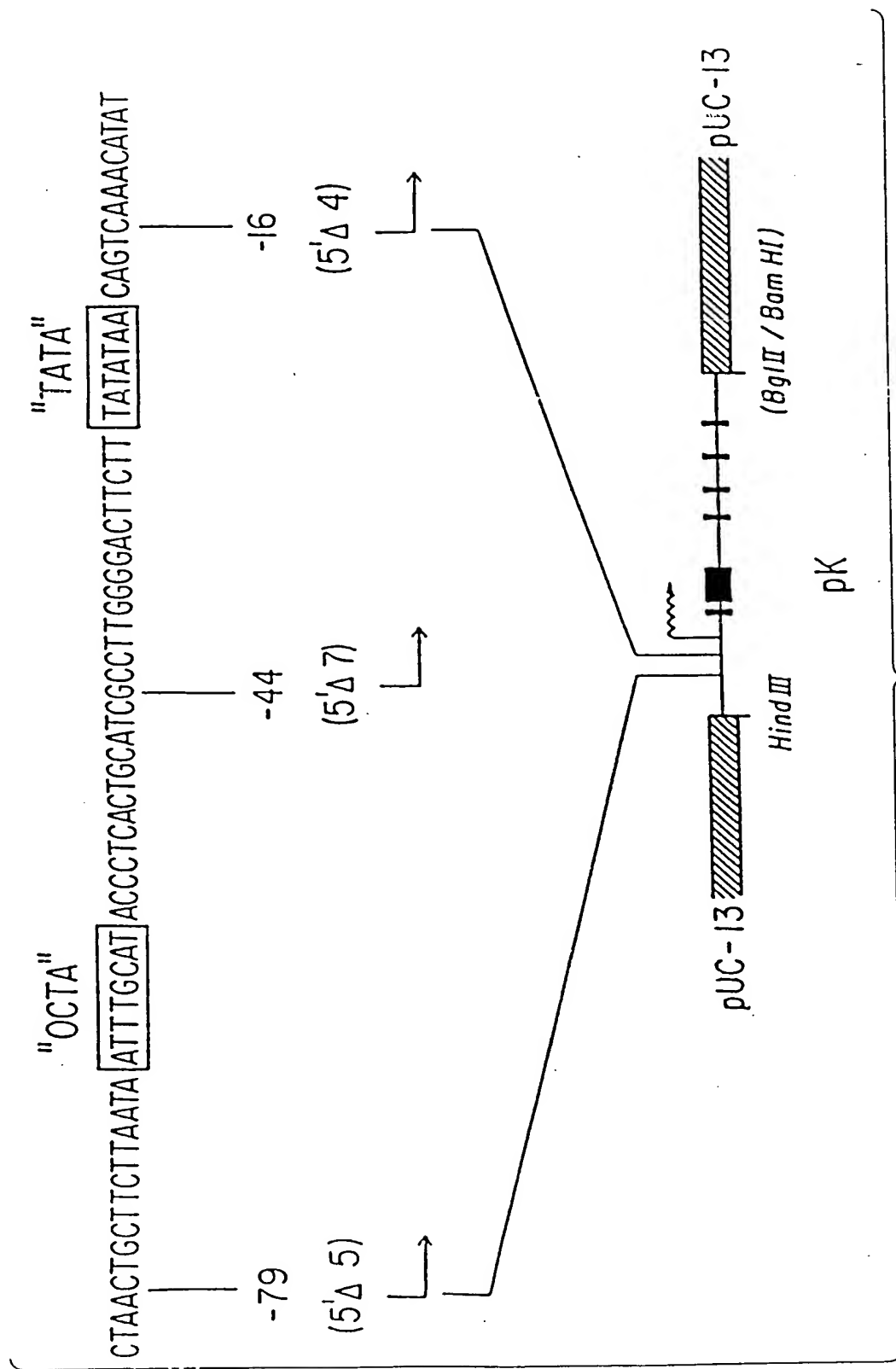


Fig. 5A

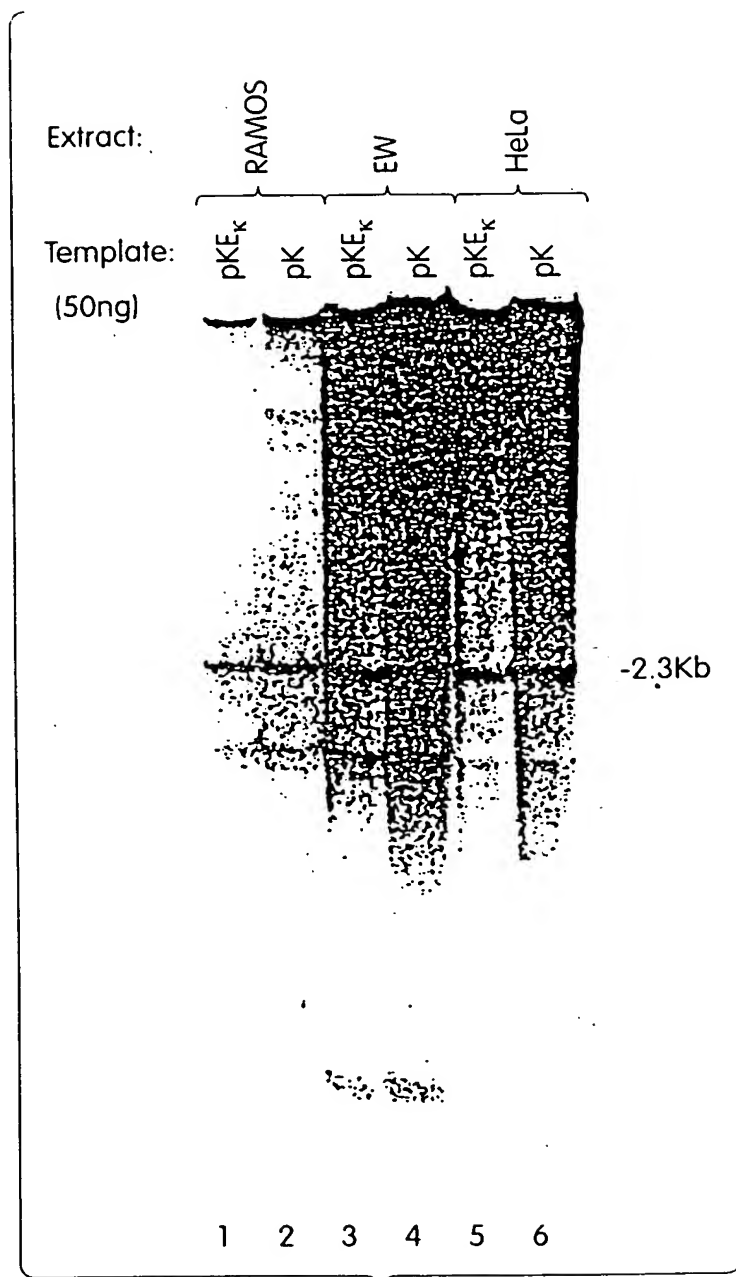


Fig. 5B

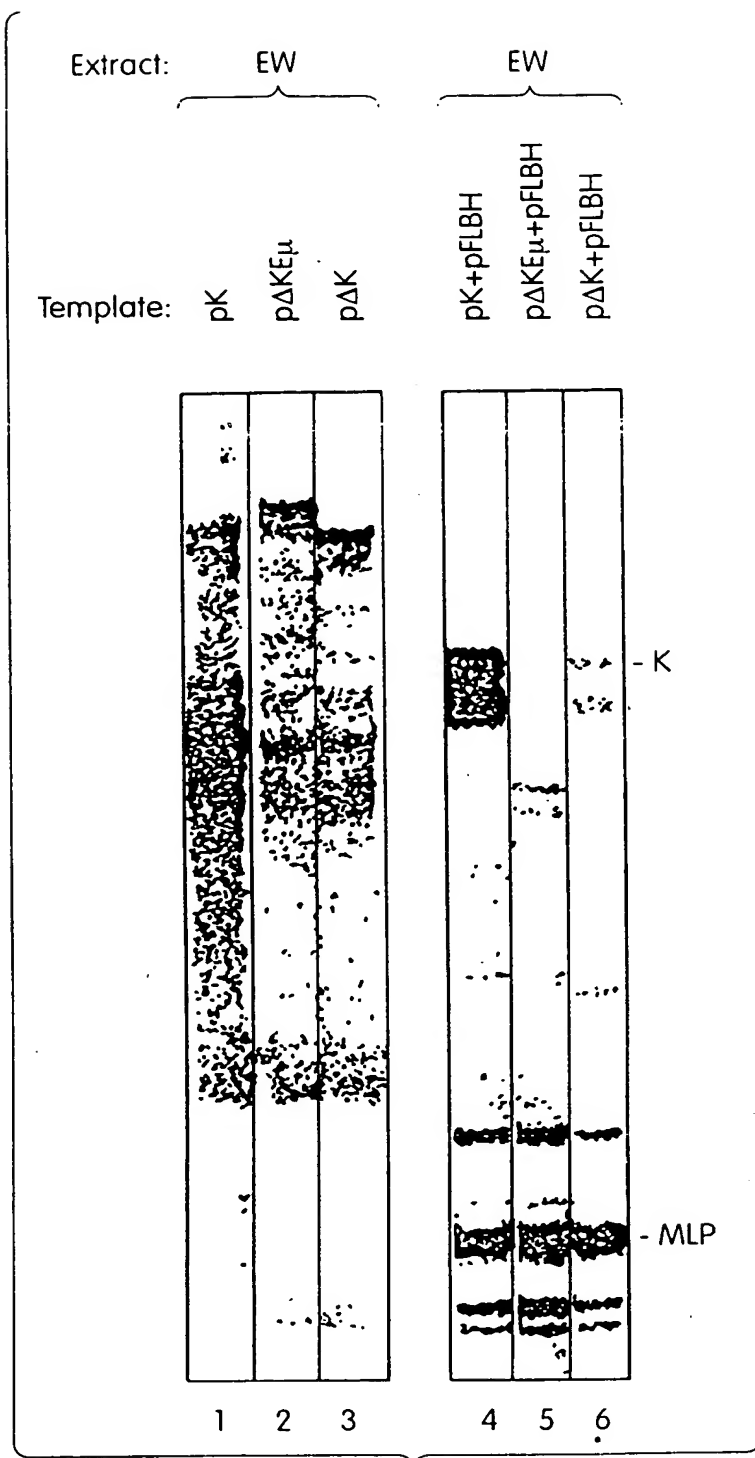


Fig. 6

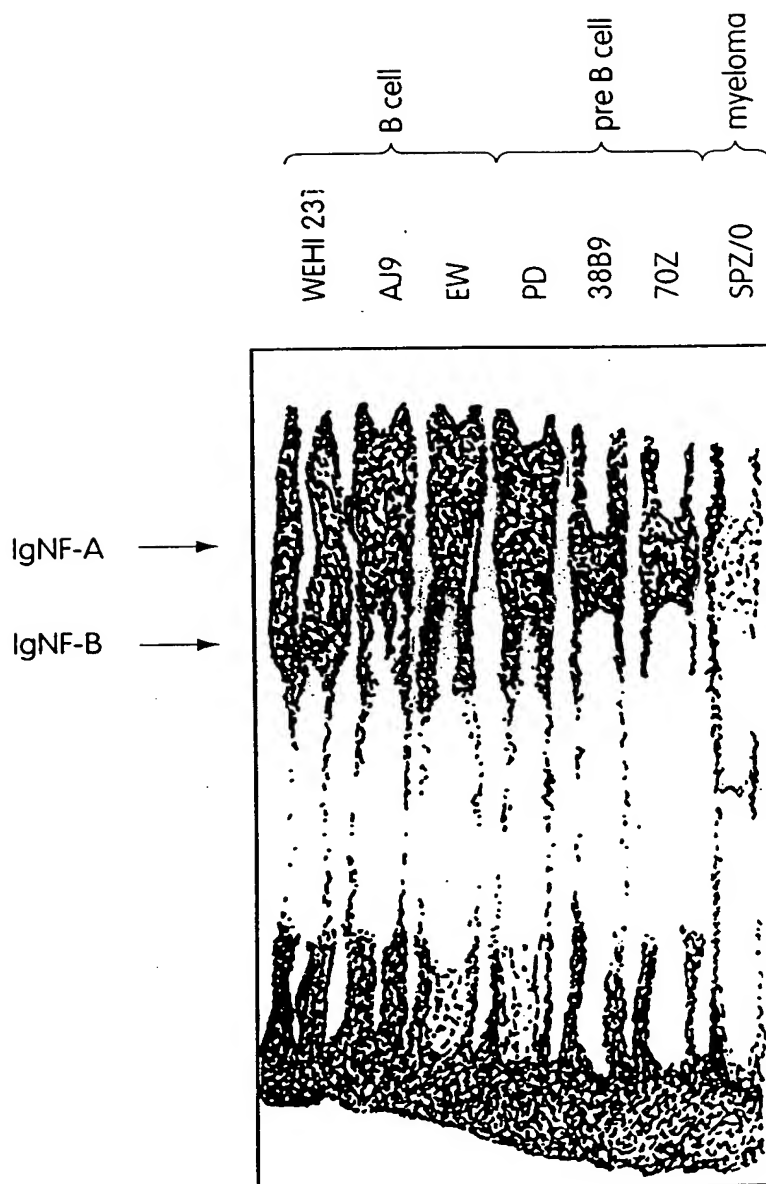


Fig. 7

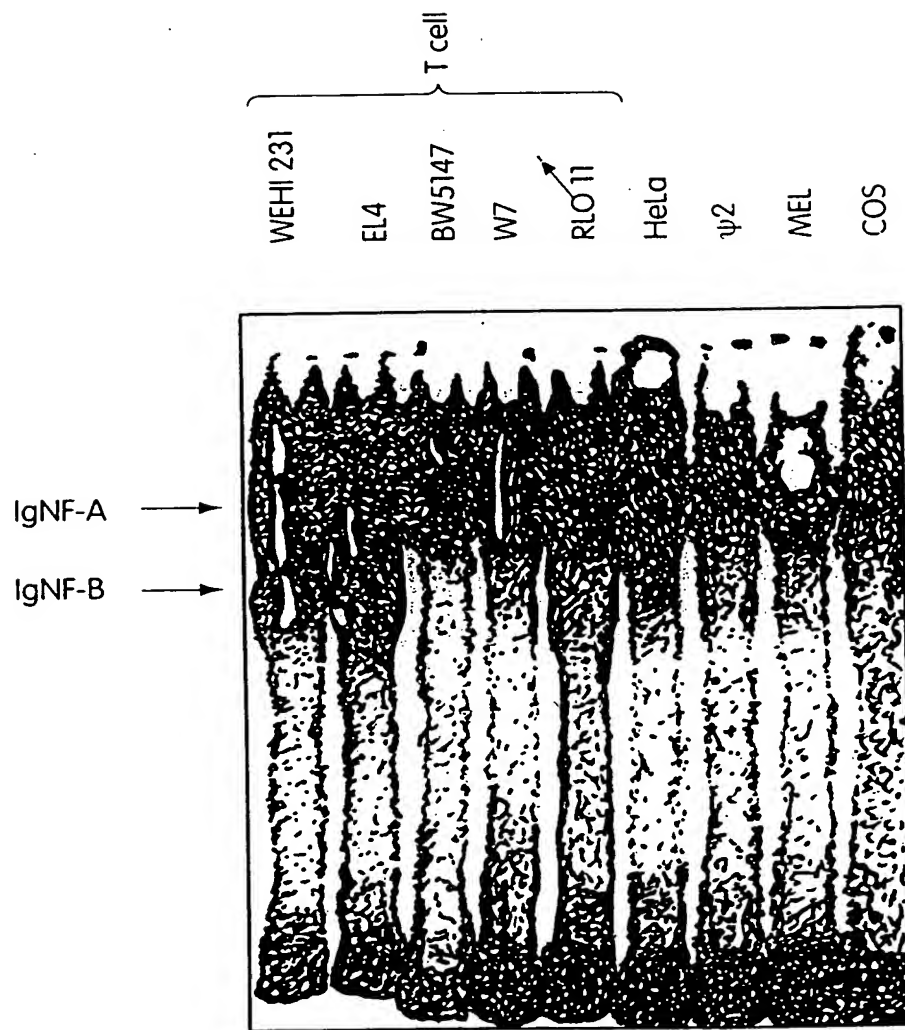
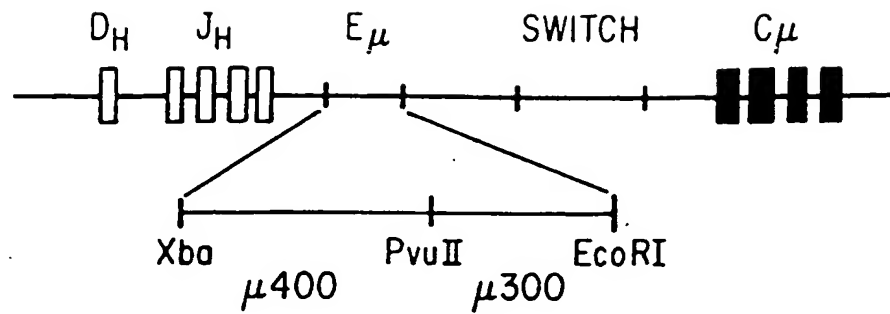


Fig. 8

Figure 9A



Fragment: $\mu 300$
 Extract: EW
 Competitor:

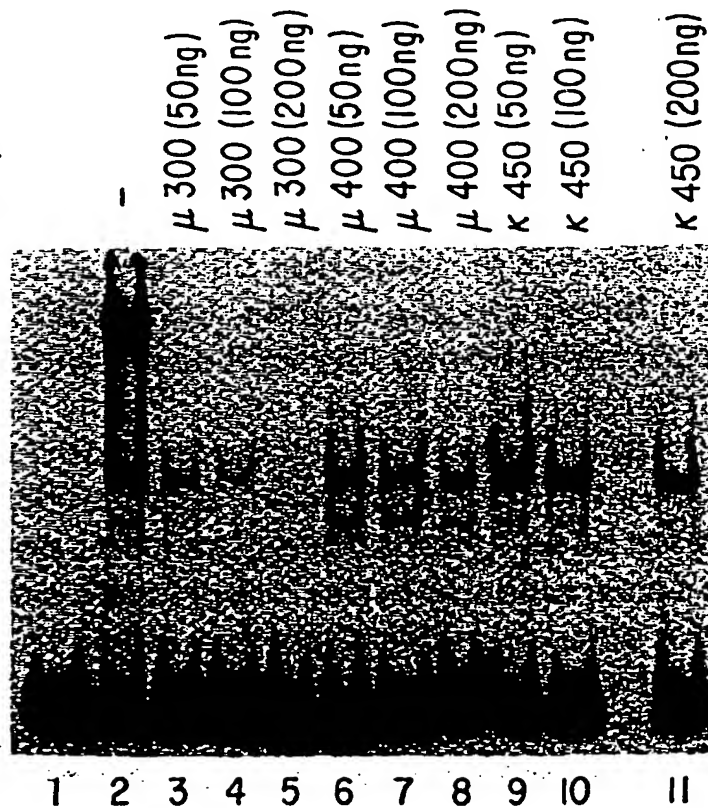


Figure 9B

Figure 10A

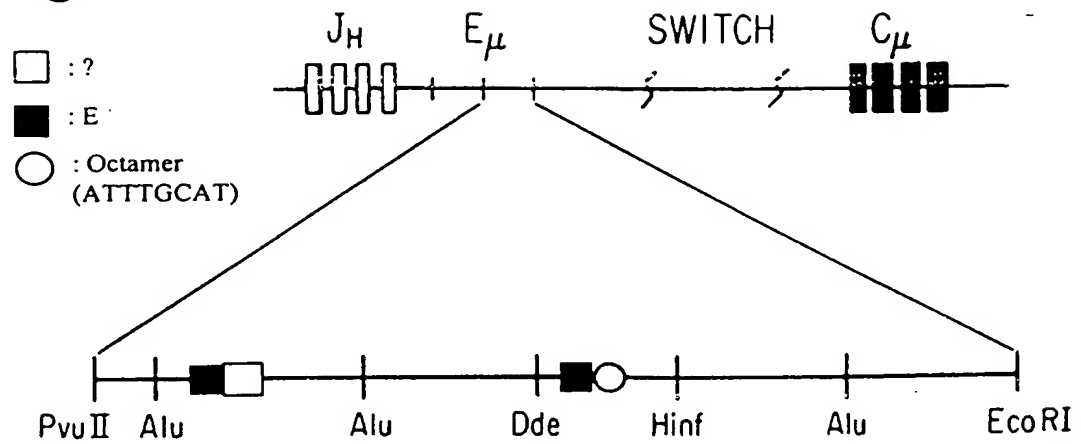
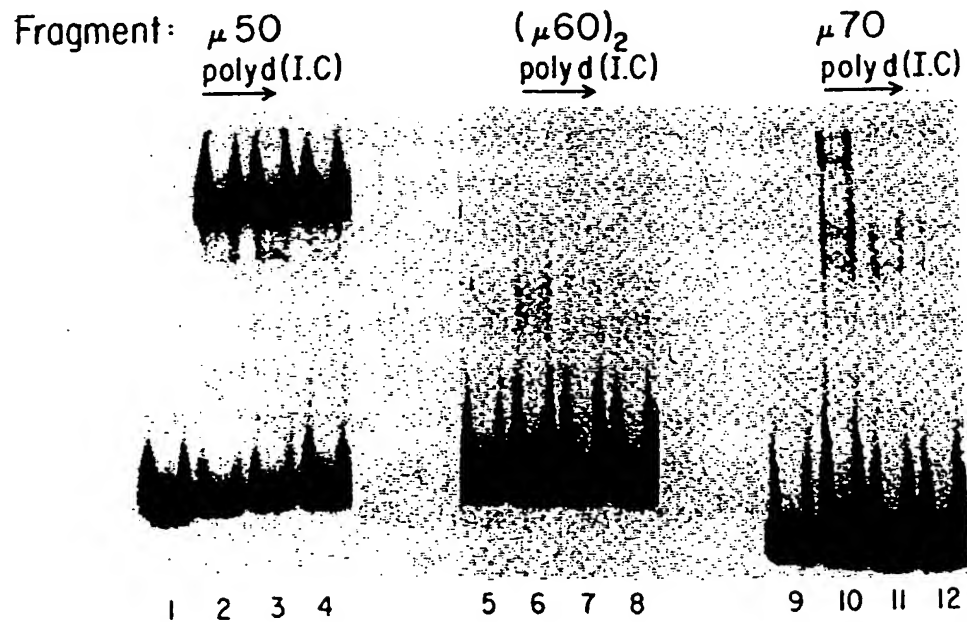


Figure 10B



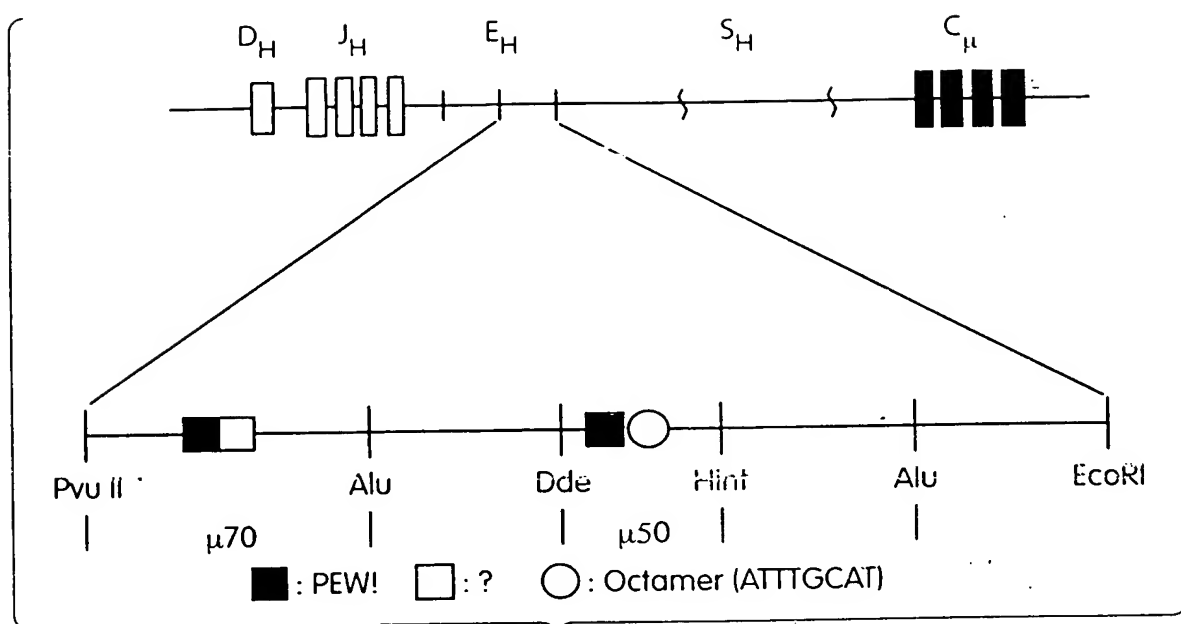


Fig. 10C

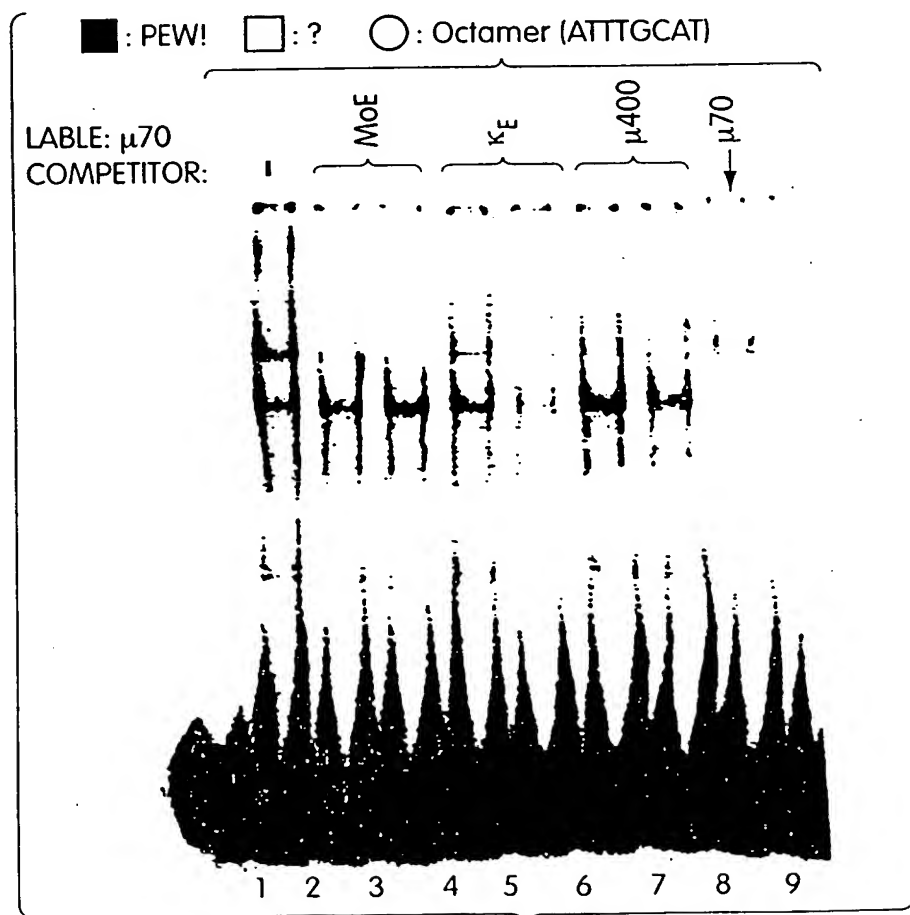


Fig. 10D

Figure 10E

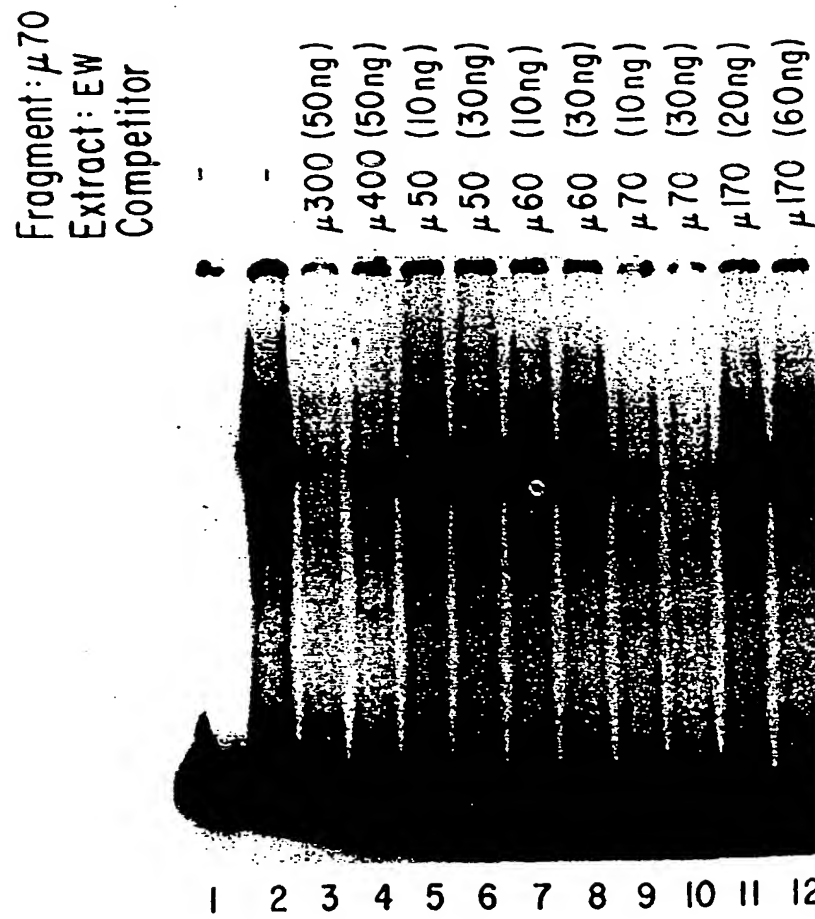


Figure 11A

Probe: $\mu 50$ 

Figure 11B



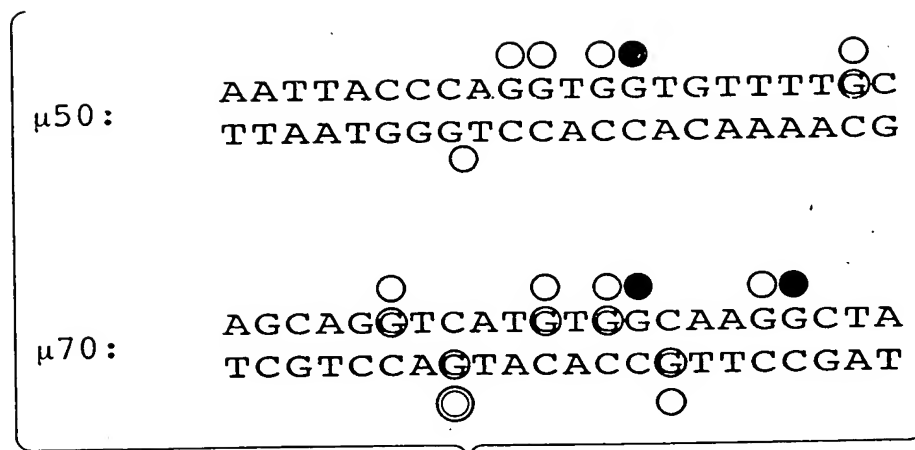


Fig. 11C

Figure 12A

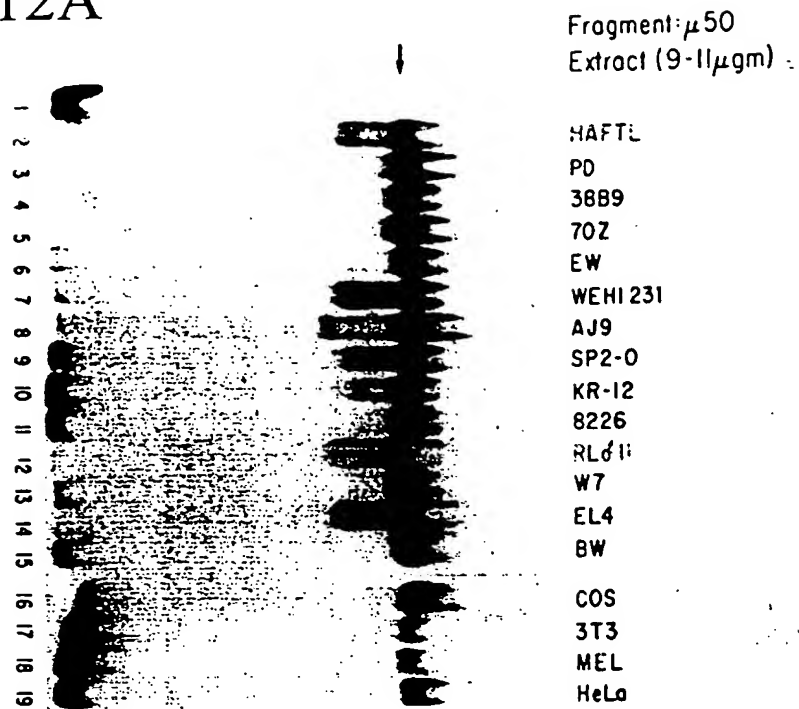


Figure 12B

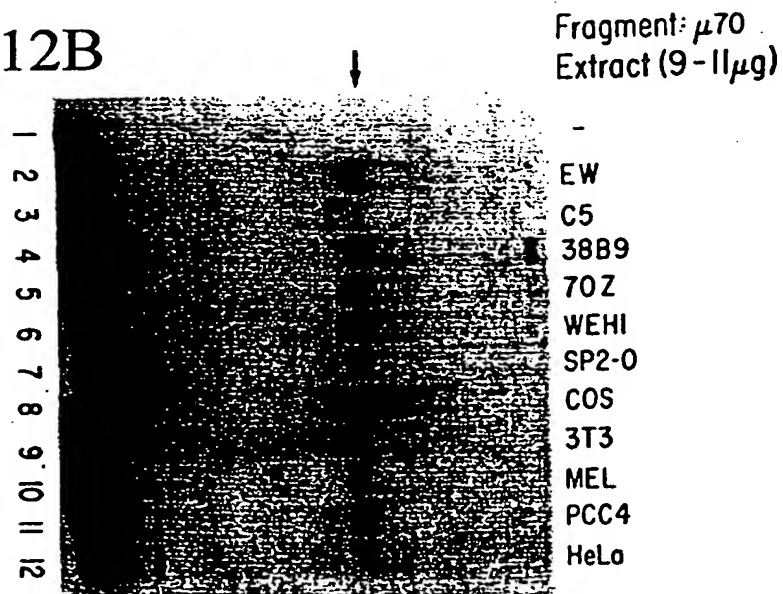


Figure 13A

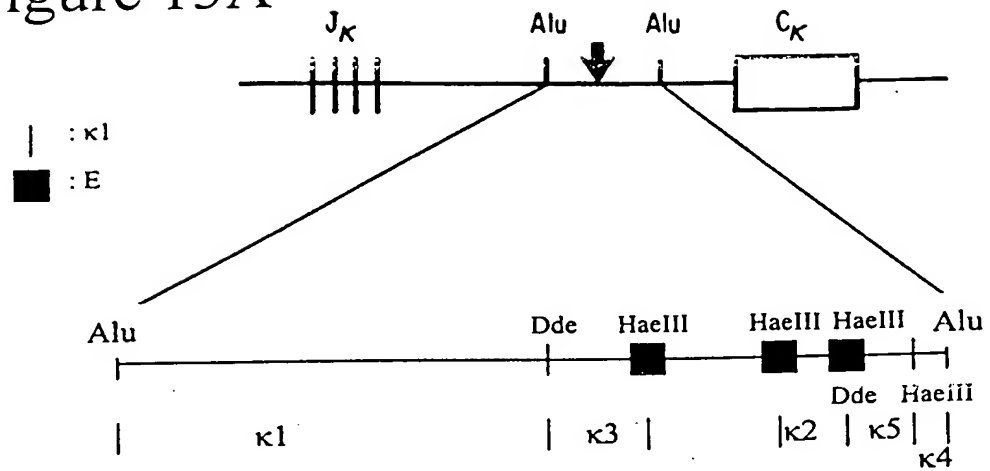


Figure 13B

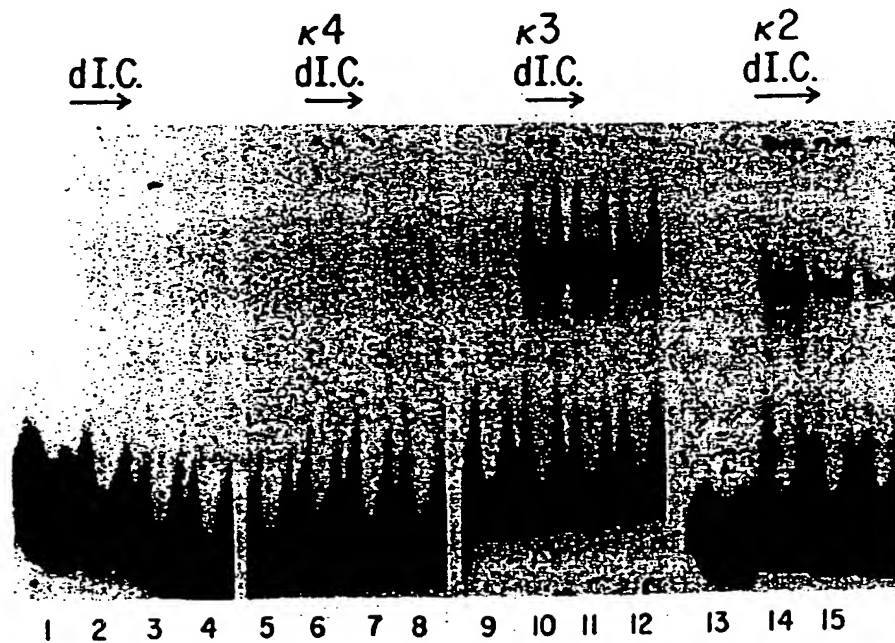


Figure 13C

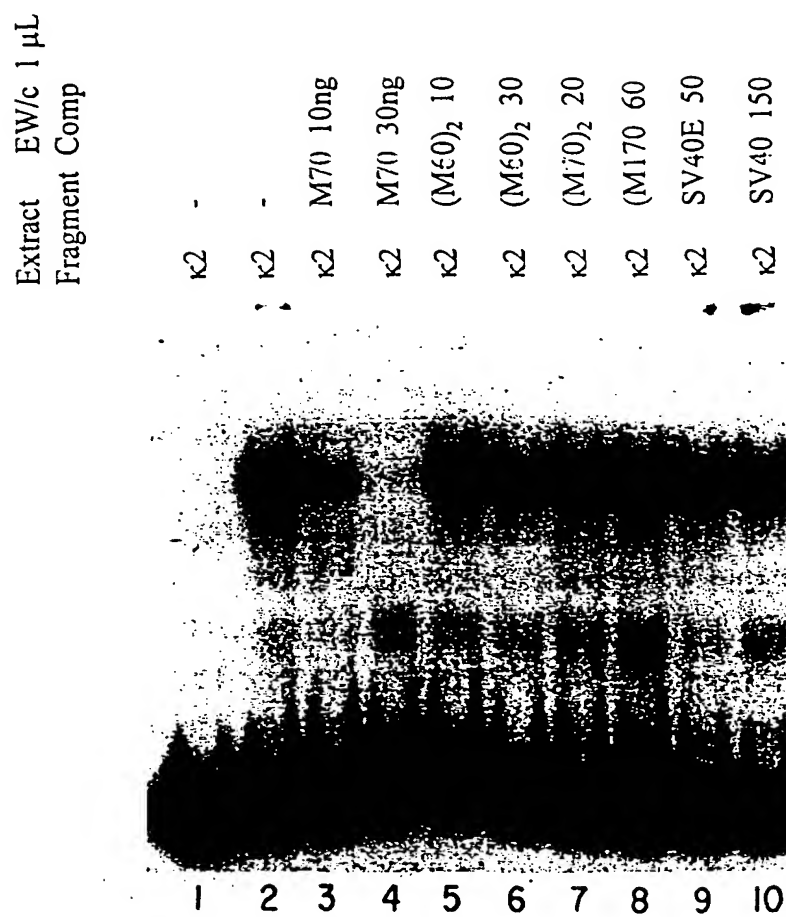
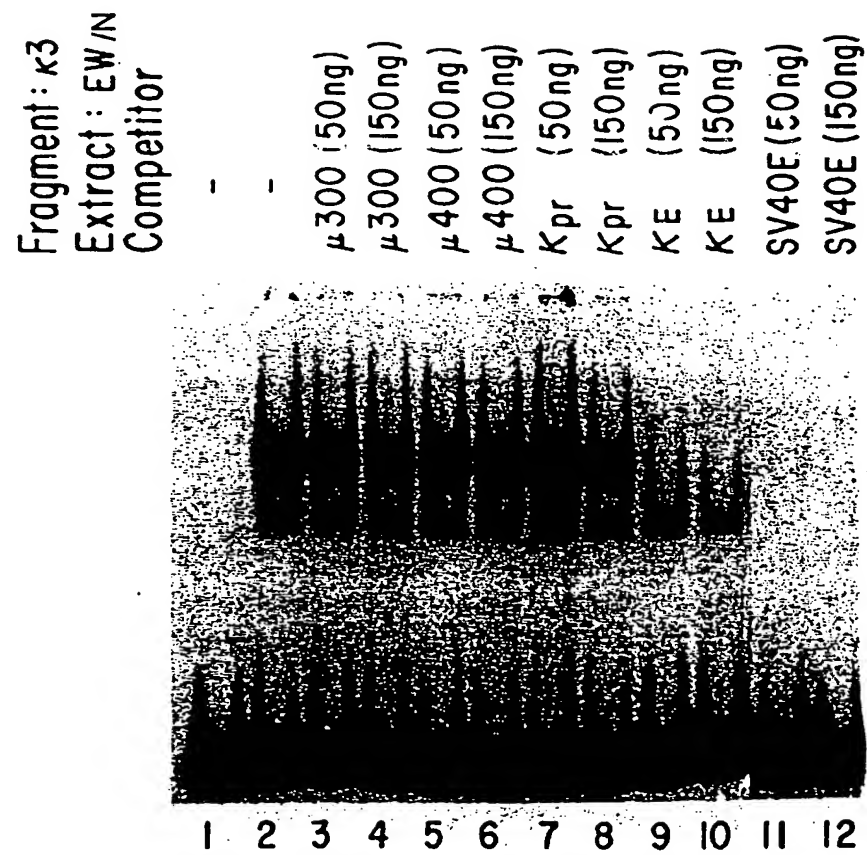


Figure 13D



COPY OF PAPERS
ORIGINALLY FILED

Figure 14

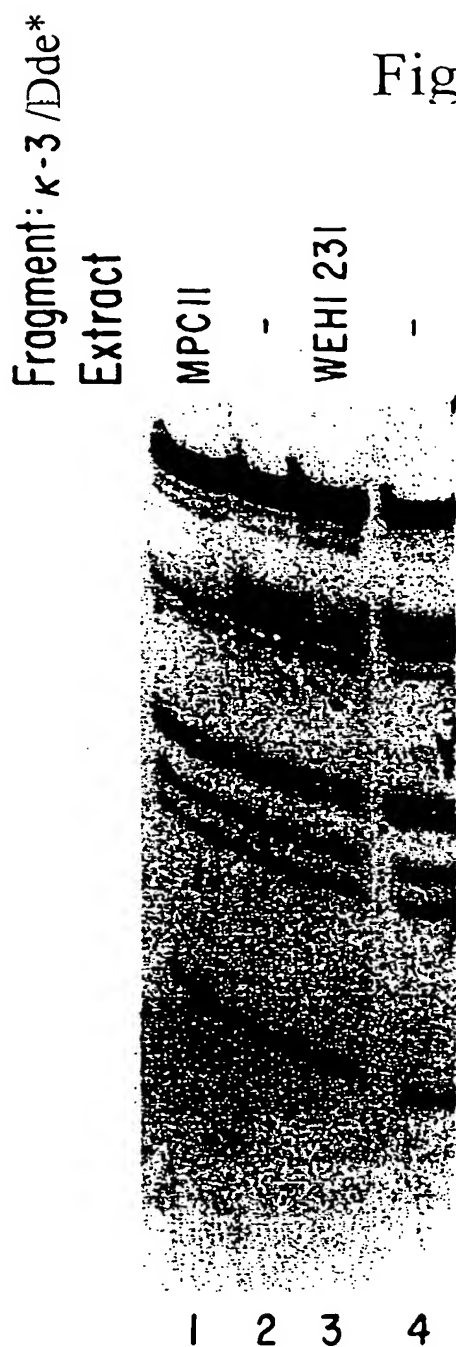
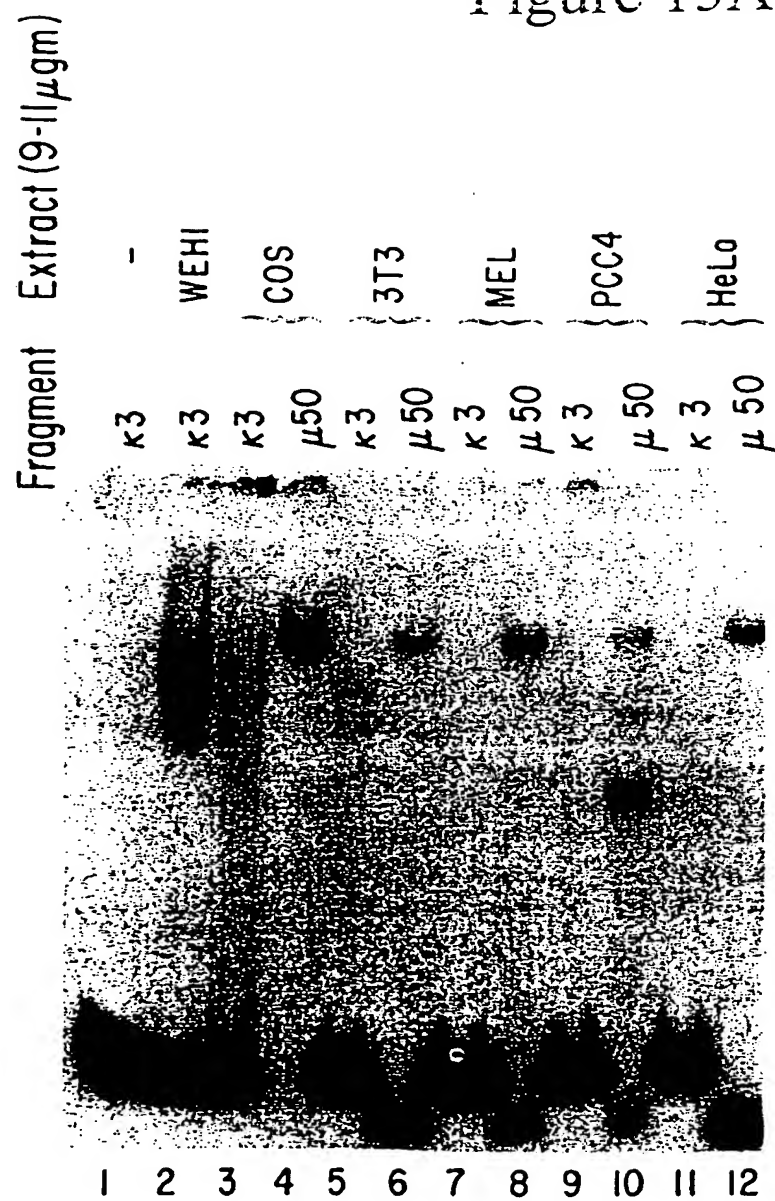


Figure 15A



4000

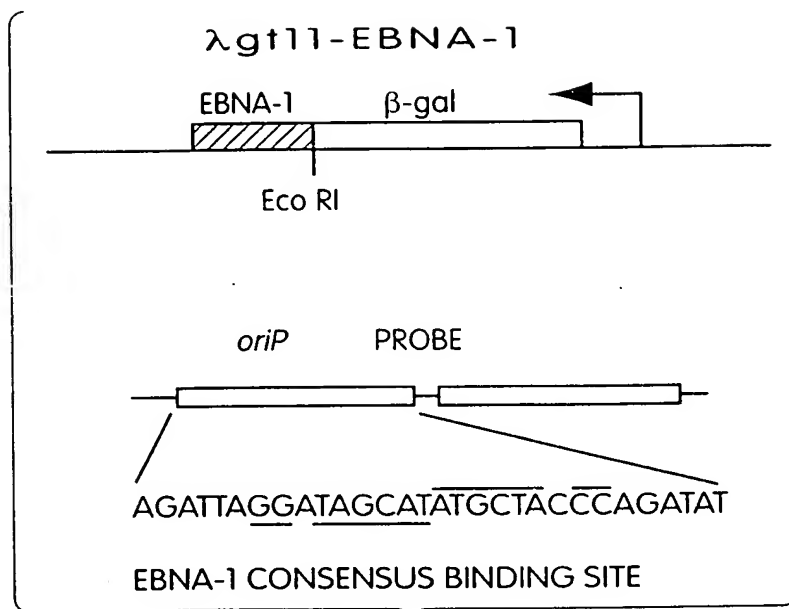


Fig. 16

MHC	<u>TGGGGATTCCCCA</u>
mhc1	TGcGGATTCCCaA
κ EN	aGGGGACTttCCg
κ en	aaattAcTttCCg _a
SVEN	TGGGGAcTttCCA
HIV	TGGGGAcTttCCA
	aaGGGAcTttCCg

Fig. 17

Fig. 18A

```

ACGACCATTTCCTCGAGGCCCTCAACCTGAGCTTCAAGAACATGTGCAAACCTCAAG
781 -----+-----+-----+-----+-----+-----+-----+
T T I S R F E A L N L S F K N M C K L K
D H F P L R G P Q P E L Q E H V Q T Q A

CCCCTCCTGGAGAAGTGGCTCAACGATGCAGAGACTATGTCTGTGGACTCAAGCCTGCCC
841 -----+-----+-----+-----+-----+-----+-----+
P L L E K W L N D A E T M S V D S S L P
P P G E V A Q R C R D Y V C G L K P A Q

AGCCCCAACCAAGCTGAGCAGCCCCAGCCTGGGTTTCGAGCCTGCCGGCCGGAGACGCAAG
901 -----+-----+-----+-----+-----+-----+-----+
S P N O L S S P S L G F E P A G R R R K
P Q P A E Q P Q P G F R A C M P E T Q E

AAGAGGACCAGCATCGAGACAAACGTCGCTTCGCCTTAGAGAAGAGTTTTCTAGCGAAC
961 -----+-----+-----+-----+-----+-----+-----+
K R T S I E T N V R F A L E K S F L A N
E D Q M R D K R P L R L R E E F S S E P

CAGAAGCCTACCTCAGAGGAGATCCTGCTGATCGCCGAGCAGCTGCACATGGAGAAGGAA
1021 -----+-----+-----+-----+-----+-----+-----+
Q K P T S E E I L L I A E Q L H M E K E
E A Y L R G D P A D R R A A A H G E G S

GTGATCCGCGTCTGGTTCTGCAACCGGCCCCAGAAGGACAAACGCATCAACCCCTGCAGT
1081 -----+-----+-----+-----+-----+-----+-----+
V I R V W F C N R R Q K E K R I H P G S
D P R L V L Q P A P E G E T H Q P L Q C

GCGGCCCCCATGCTGCCCAGCCCAGGGAAGCCGGCCAGCTACAGCCCCCATATGGTCACA
1141 -----+-----+-----+-----+-----+-----+-----+
A A P M L P S P G K P A S Y S P H H V T
G P H A A Q P R E A G Q L Q P P Y G H T

CCCCAAGGCGGCGGGGACCTTACCGTTGTCCCAAGCTTCCAGCAGTCTGAGCACAACA
1201 -----+-----+-----+-----+-----+-----+-----+
P Q G G A G T L P [L] S Q A S S S [L] S T T
P A G R G D L T V V P S F Q Q S E H N S

```

Fig. 18A
(CONTINUED)

```

GTTACTACCTTATCCTCAGCTGTGGGGACGCTCCACCCCAGCCGGACAGCTGGAGGGGGT
1261 -----+-----+-----+-----+-----+-----+-----+
V T T [L] S S A V G T [L] H P S R T A G G G
Y Y L I L S C G D A P P Q P D S N M G W

GGGGGCGGGGGCGGGGCTGCGCCCCCTCAATTCCATCCCCTCTGTCACTCCCCACCC
1321 -----+-----+-----+-----+-----+-----+-----+
G G G G G A A P P L N S I P S V T P P P
G M G R G C A P P Q F H P L C H S P T P

CCGGCCACCACCAACAGCACAAACCCCAGCCCTCAAGGCAGCCACTCGGCTATCGGCTTG
1381 -----+-----+-----+-----+-----+-----+-----+
P A T T N S T N P S P Q G S H S A I G L
G H N Q Q H K P Q P S R Q P L G Y M L V

TCAGGCCTGAACCCCAGCACGGGGTAAGTGGGTGCACGTGGGAAGCTGTGGGGAGAAGCA
1441 -----+-----+-----+-----+-----+-----+-----+
S G L H P S T G +
A P E P Q N G V S G C T W E A V G R S R

GCGTCGCTGCTCCTTCTAGGGTGGGGAGCGGCACCCCAGTTATGTTGGCAGGTCCCTGCC
1501 -----+-----+-----+-----+-----+-----+-----+
V A A A S R V G S G T P V M L A G P C P

CCTGCTAATGCCTCTGCTTTGCCTCTTGCAGAAGCACAAATGGTGGGGTTGAGCTCCGGCT
1561 -----+-----+-----+-----+-----+-----+-----+
C +

GAGTCCAGCCCTCATGAGCAACAACCCTTTGGCCACTATCCAAGGTGCGTGCTGCCTCAT
1621 -----+-----+-----+-----+-----+-----+-----+

GTCACACCCATCGTCACCAGCCCCGGAATTCGAG
1681 -----+-----+-----+-----+-----+-----+-----+

```

Fig. 18A
(CONTINUED)

CCTCAAGGCAGCCACTCGGCTATCGGCTTGTCAGGCCTGAACCCAGCACGGGCCCTGGC
 1411 -----+-----+-----+-----+-----+-----+-----+
 P Q G S H S A I G L S G I N P S T G P G
 S A Q P L G Y R L V M P E P Q M G P N P
 CTCTGGTGAACCCTGCCCCTTACCAGCCTTGATGGCAGCGGGAATCTGGTGGCTGGGGGC
 1471 -----+-----+-----+-----+-----+-----+-----+
 L W W N P A P Y Q P .
 L V E P C P L P A L M A A G I W C W G Q
 AGCCGGTGCAGCCCCGGGGAGCCCTGGCCTGGTGTGACCTCGCCGCTCTTCTTGAATCATGC
 1531 -----+-----+-----+-----+-----+-----+-----+
 P V Q P R G A L A W .
 TGGGCTGCCCCCTGCTCAGCACCCCGCCTGGTGTGGGCCTGGTCTCAGCAGCGGCTGCGGG
 1591 -----+-----+-----+-----+-----+-----+-----+
 TGTGGCAGCCTCCATCTCCAGCAAGTCTCCTGGCCTCTCCTCCTCATCCTCTTCATCCTC
 1651 -----+-----+-----+-----+-----+-----+-----+
 ATCCTCCTCCTCCTCCACTTGCAGCGAGACGGCAGCACAGACCCTGGAGGTCCAGGGGGG
 1711 -----+-----+-----+-----+-----+-----+-----+
 CCCGAGGCAGGGTCCAAACCTGAGTGAGGGCCAGCCATGCCTCCCCTCCCATTCTCTGG
 1771 -----+-----+-----+-----+-----+-----+-----+
 TCCCTGCCCCGGAATTC
 1831 -----+-----

Fig. 18B

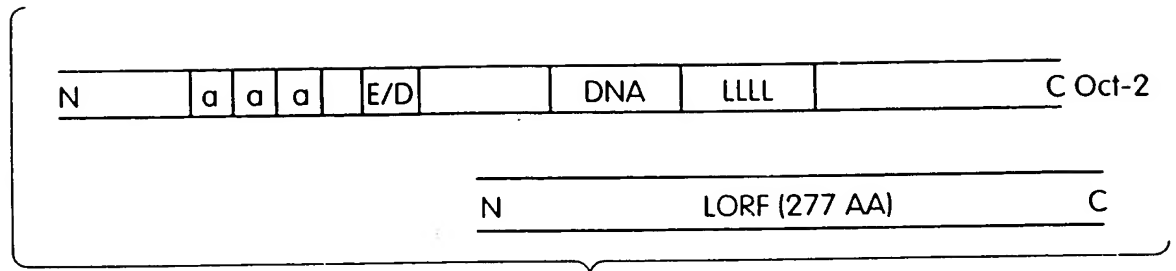


Fig. 18C

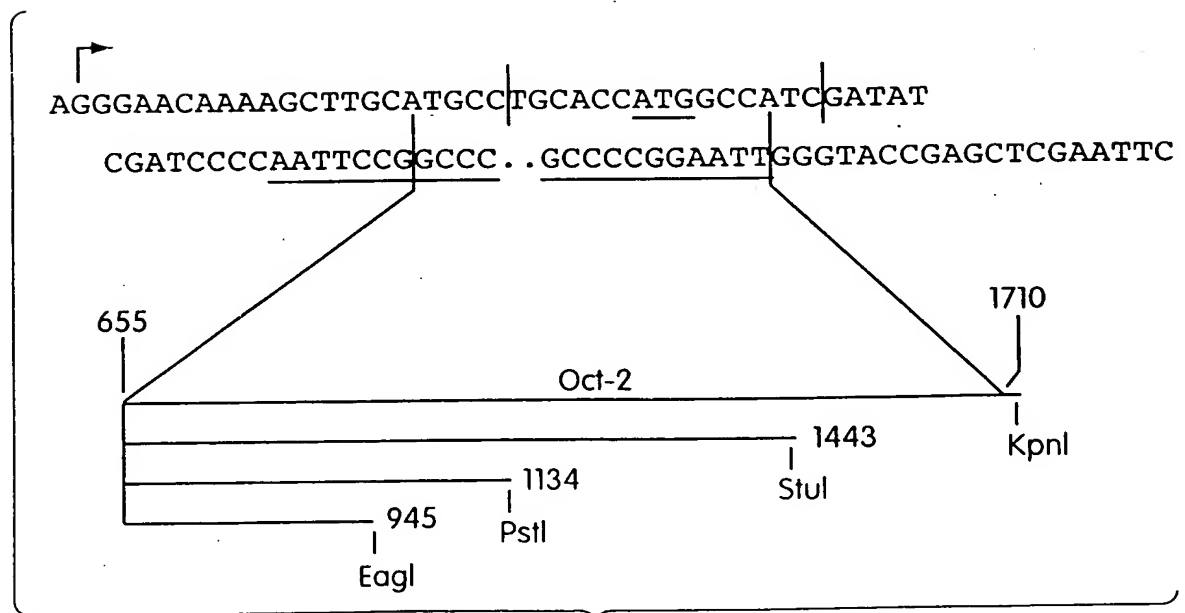


Fig. 19

	helix	turn	helix	
Oct-2	RRKKRTSIETNVRFALEKSEFLANQKPTSEEILLIAEQ	LMHMEKEVIRVWE	CNRRQKEKRINPC	
a1	SPKGKSSISPOARAFLEQVFRKQSLNSKEEVAKKCGITPLQVRVWE	IN	KRMRSK	
α2	KPYRGHRTKENVRILESWFAKNPYLDTKGLNLMKNTSLSR	IQIKNV	SNRRRKEKTIT	
pho2	QRPKRTRAKGEALDVLRKKEINPTPSLVERKKISDLIGMPEKNVRIWE	QNRRAKL	RKKQ	
mec-3	RRGPRTTIKQNLQDVINEMFSNTPKPSKHARAKLALETGLSMRVIQVWE	QNR	RSKERRLK	
cut	SKKQBVLFSEEQKEA [*] RLAFALDP [*] YPNVGTIEFLANELGLATRTITNWEHNNHMR	LKQV		
en	EKRPTAFSSSEQLARLKREFNENRNYLTERRRQQLSSELGLNEAQIKIWE	QNKRAKIKKST		
Antp	RKRGQTYTRYQTLEKEEFHNRYLTRRRRIEIAHALCLTERQIKIWE	QNRBMKWKKN		
	R	Q	L	Y
			L	WE N R

(conserved
residues in
homeo-box
family)

Fig. 20

Figure 21A

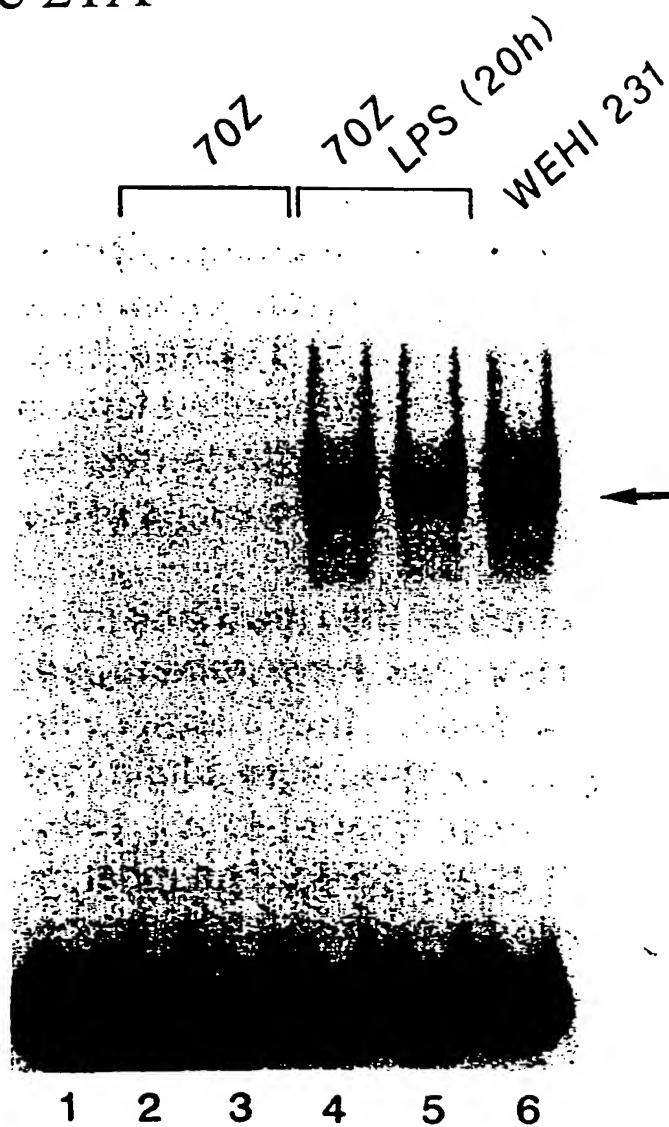


Figure 21B

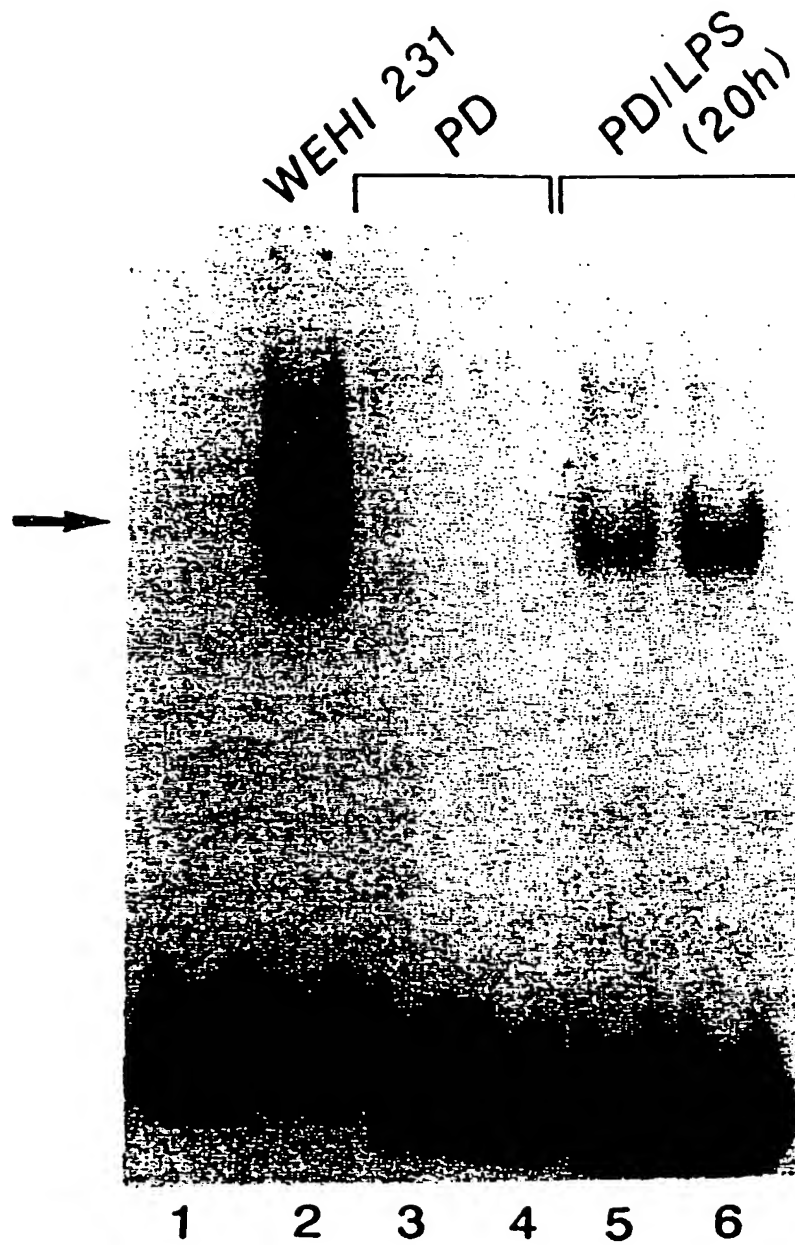


Figure 22A

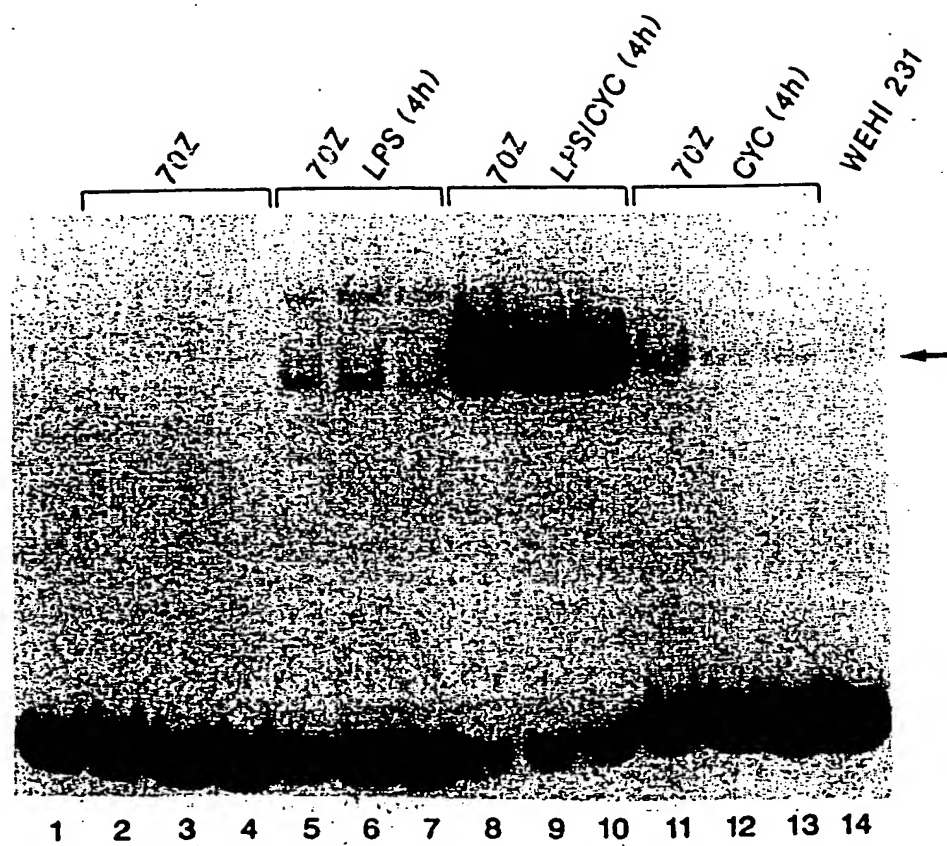


Figure 22B

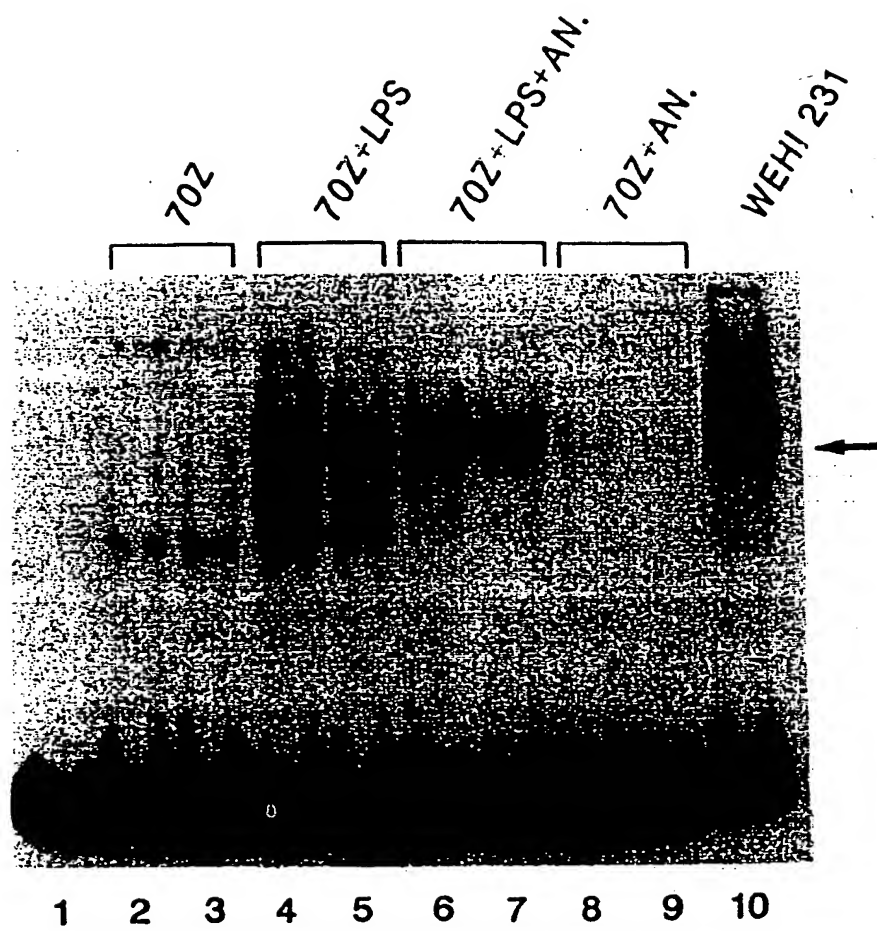


Figure 23A

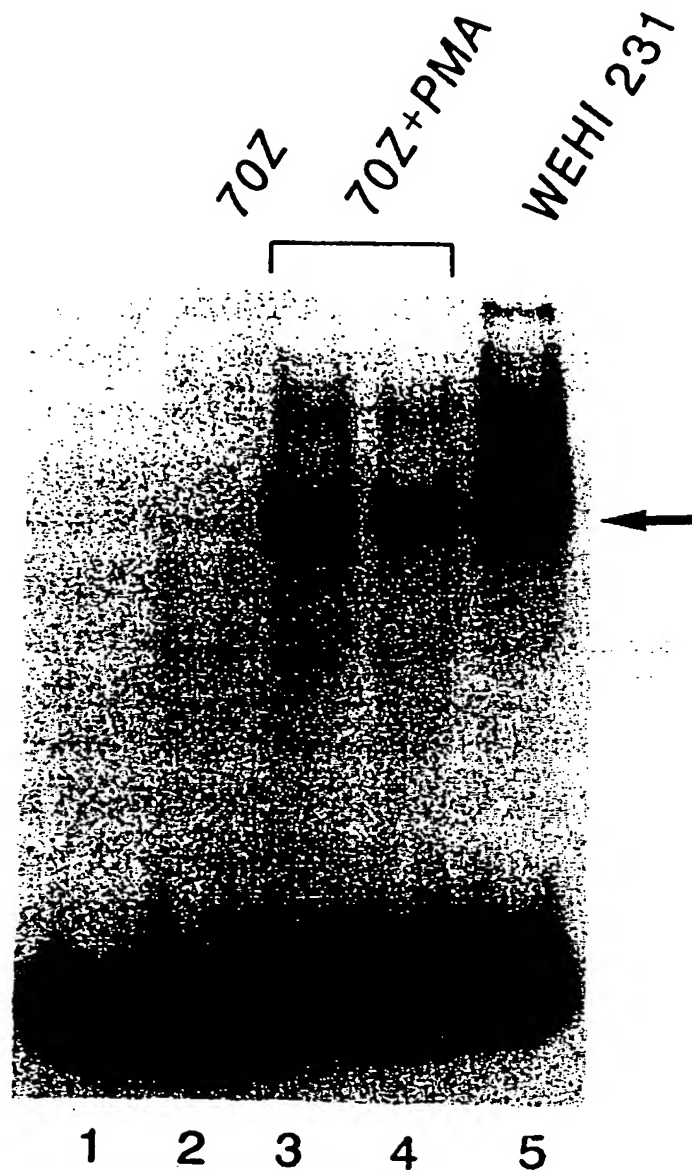


Figure 23B

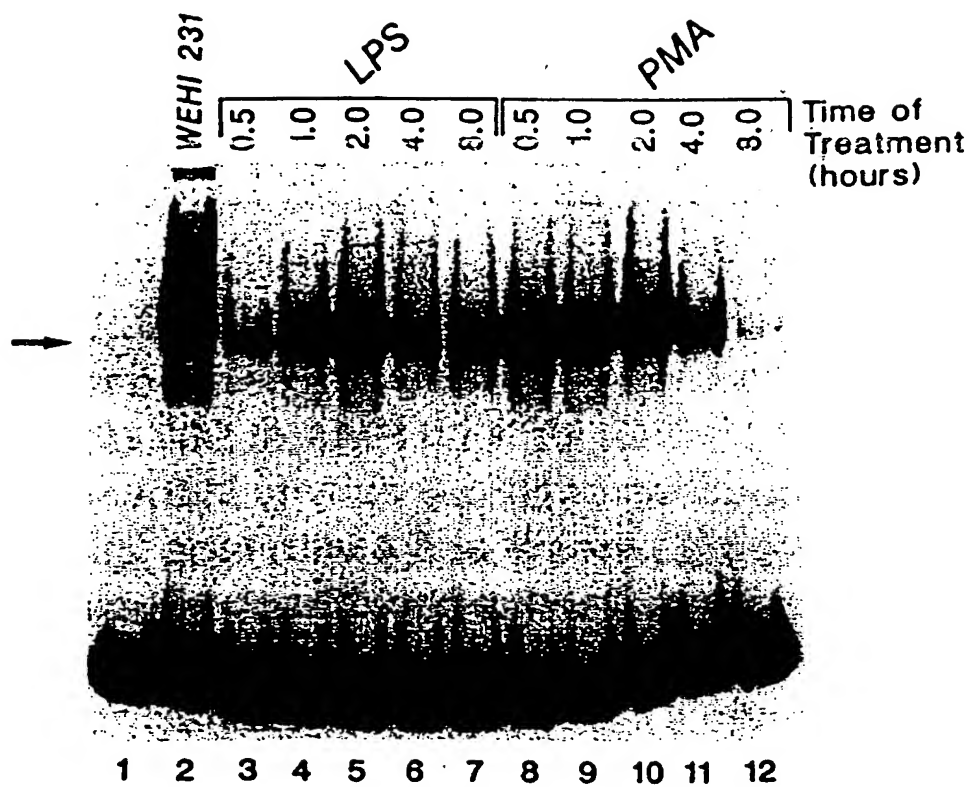


Figure 24A

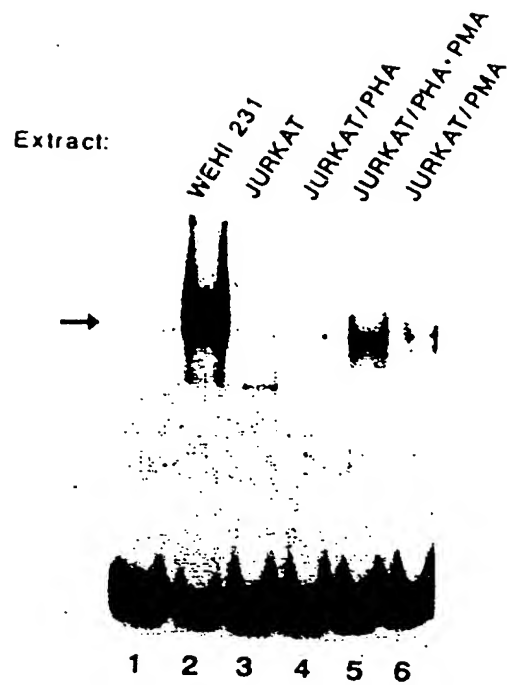


Figure 24B

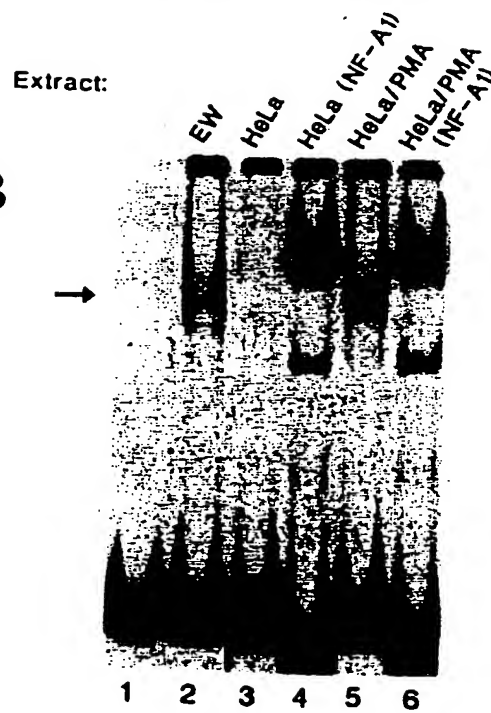
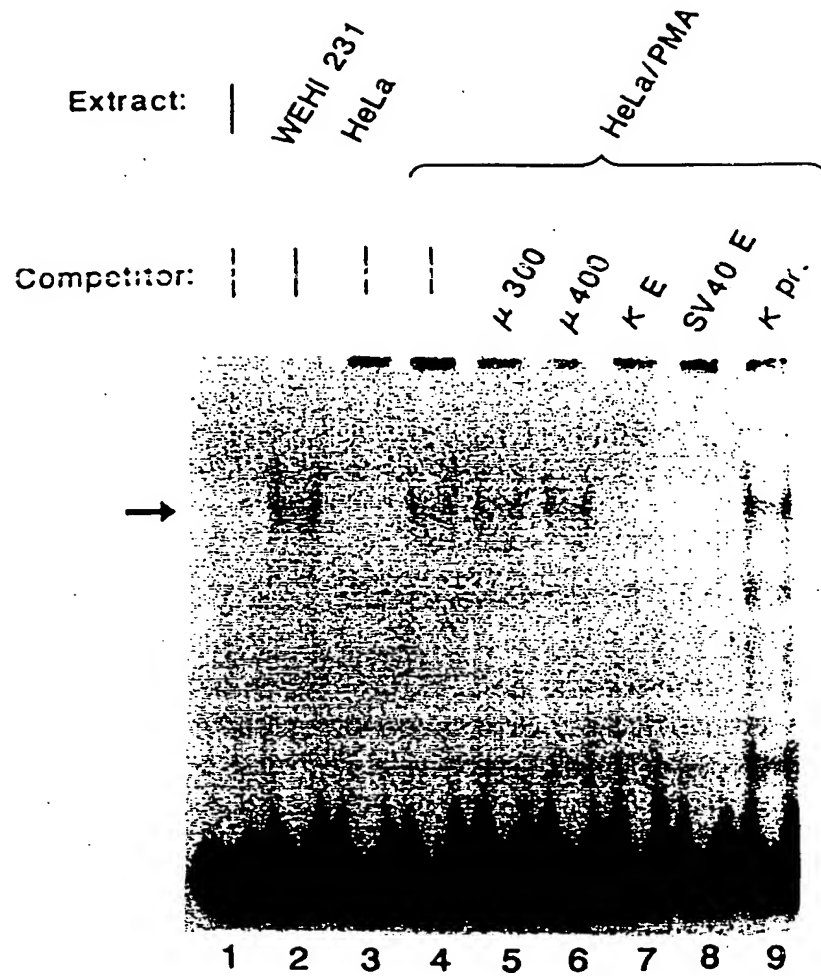


Figure 24C



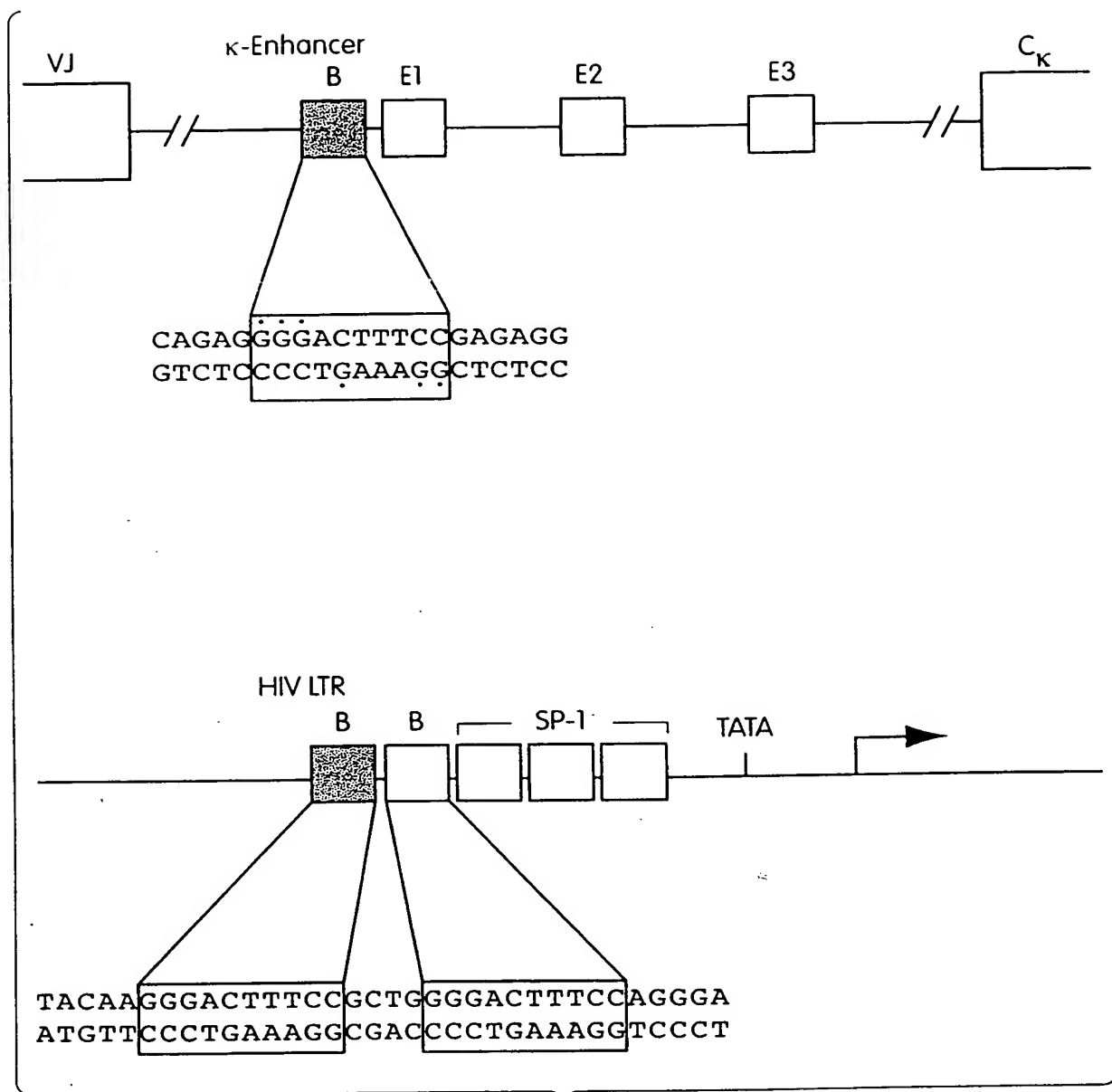


Fig. 25

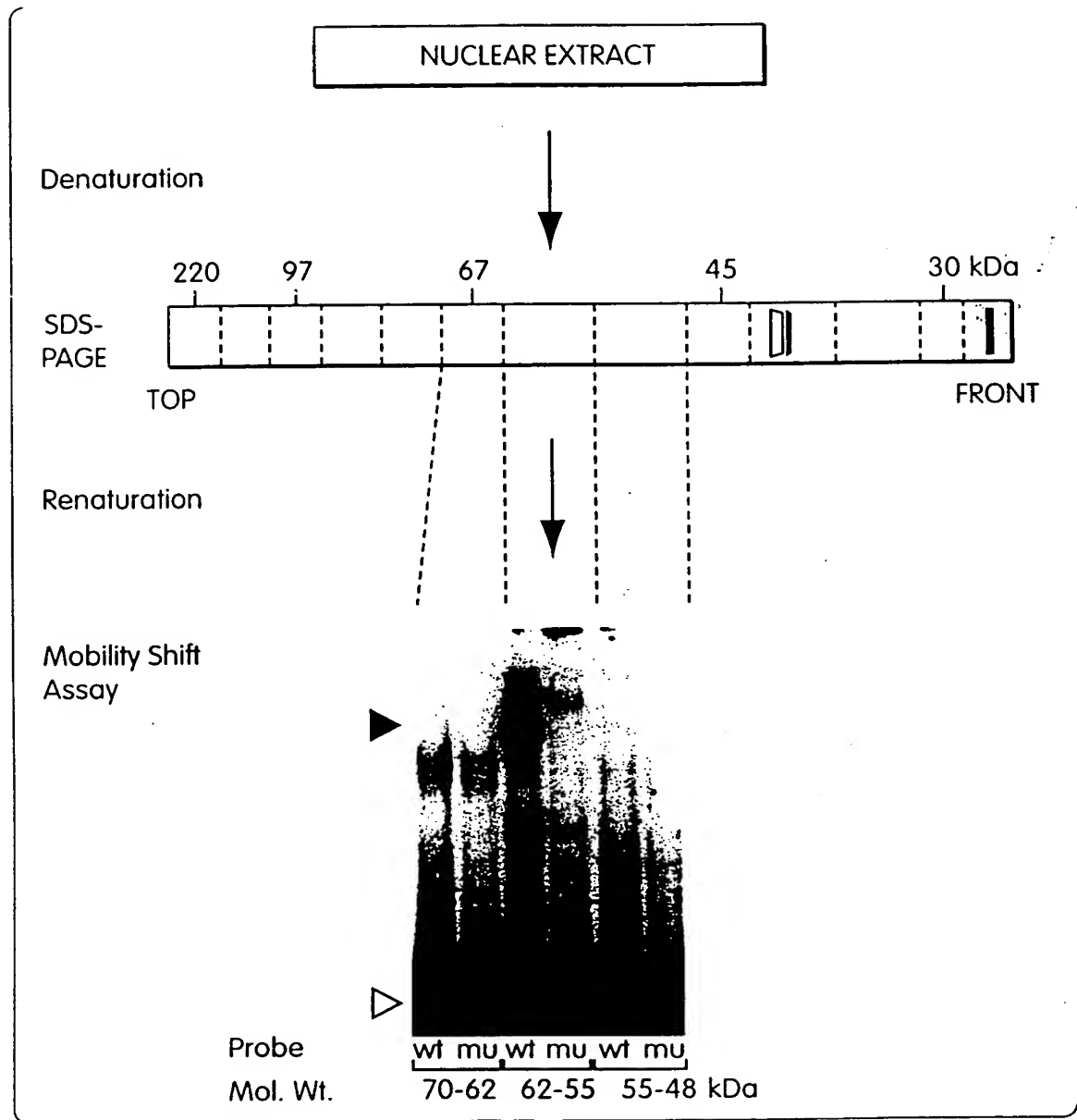
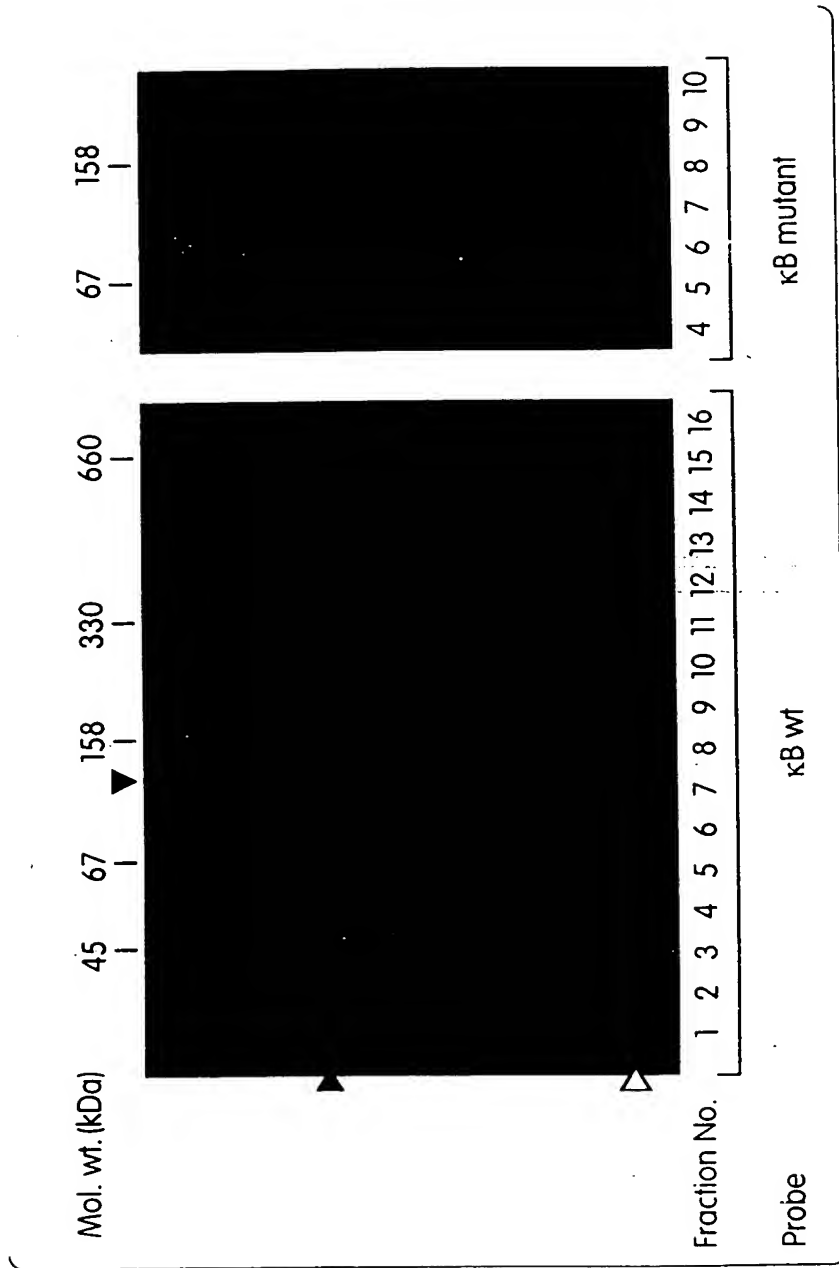


Fig. 26A



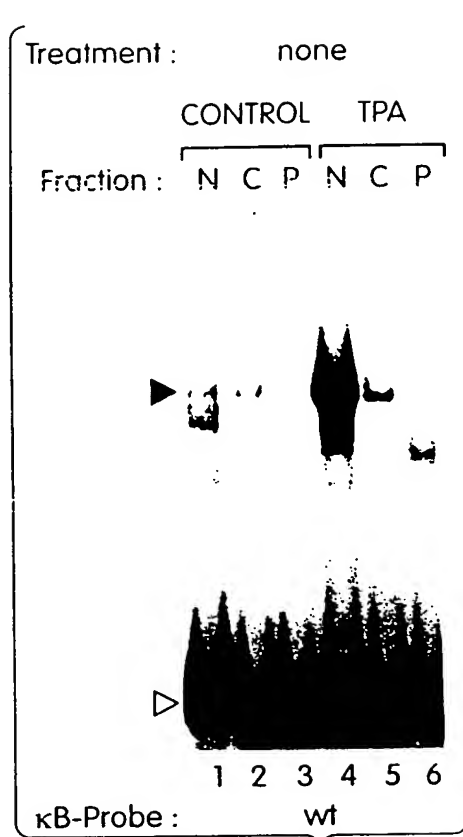


Fig. 27A

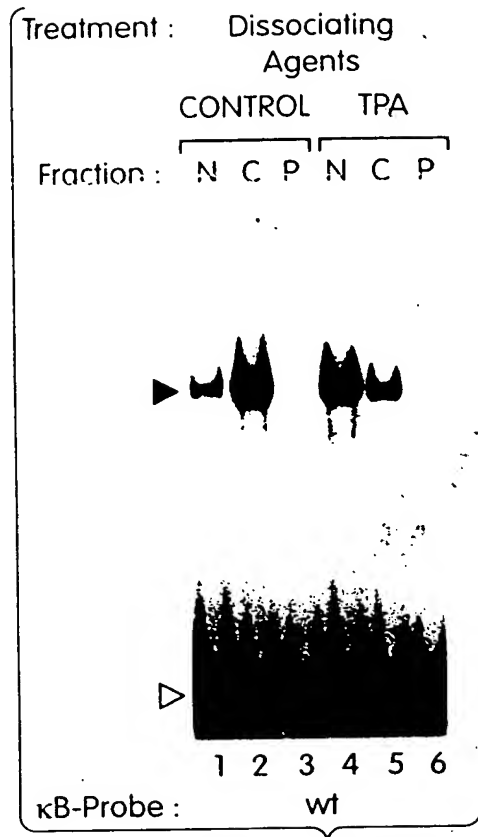


Fig. 27B

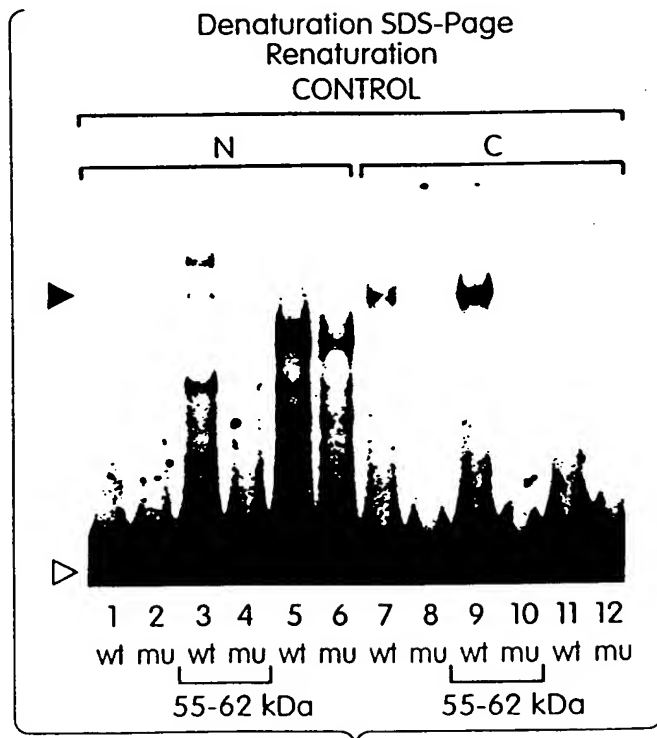


Fig. 27C

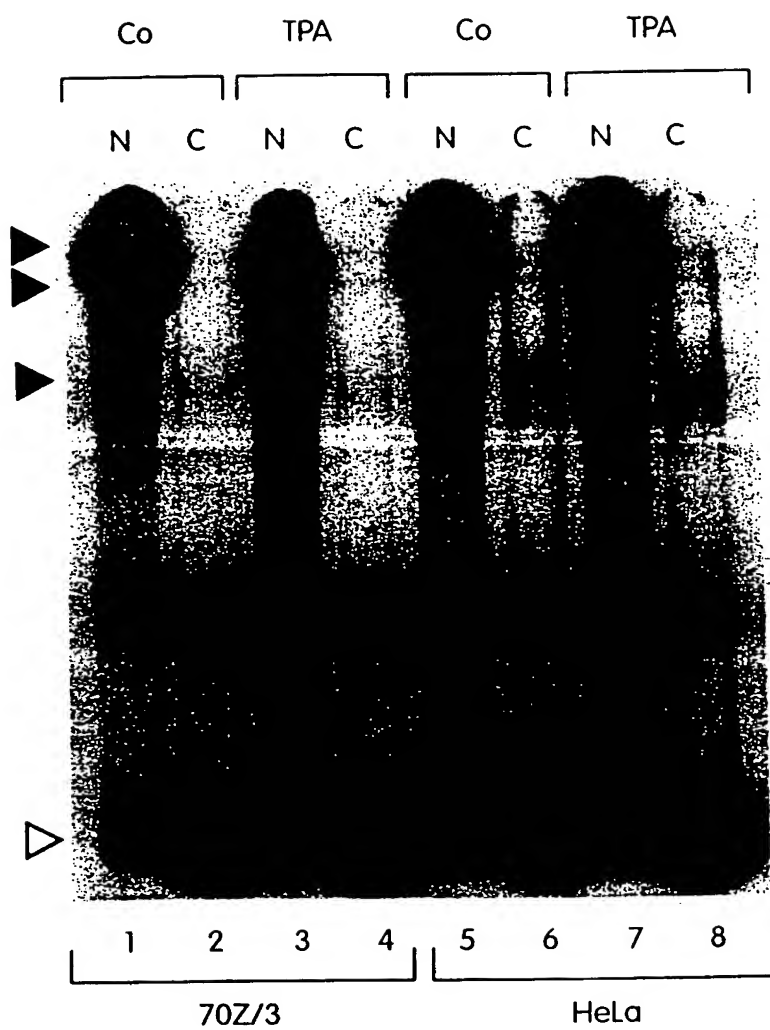


Fig. 28

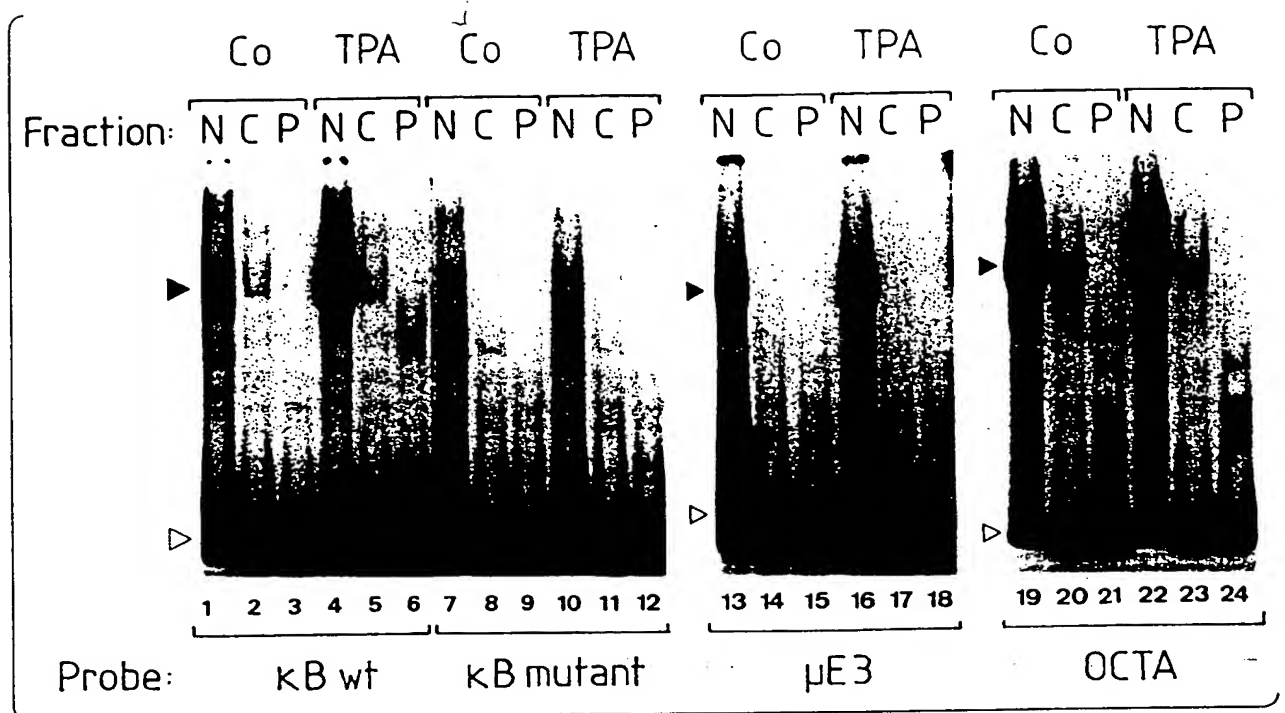


Fig. 29

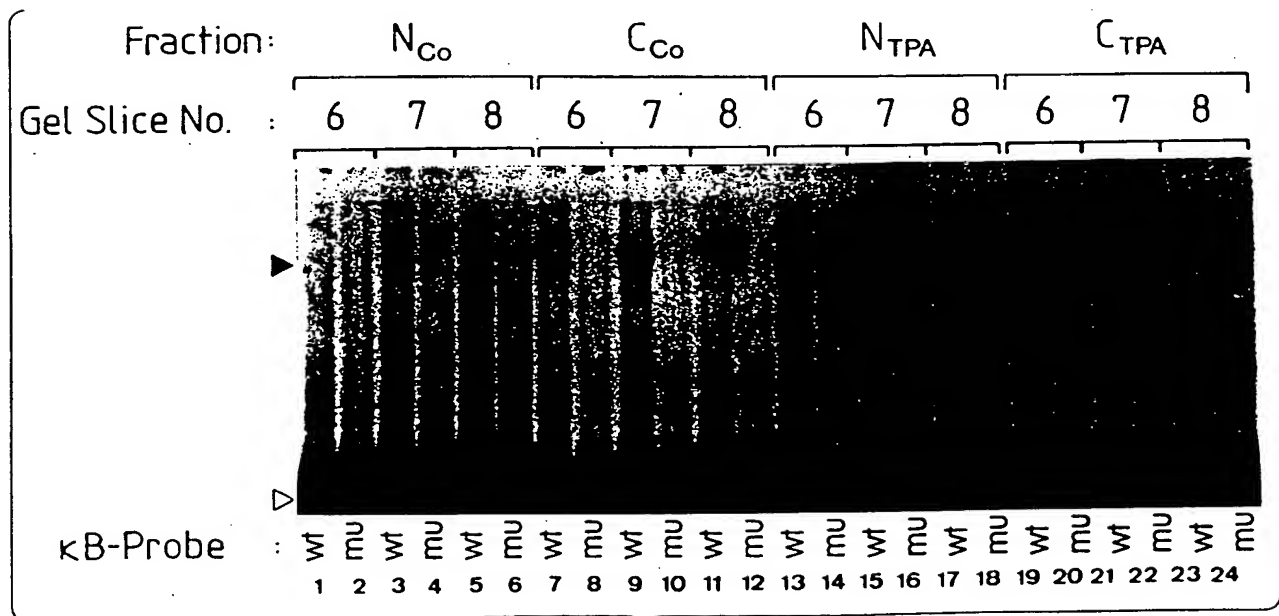


Fig. 30

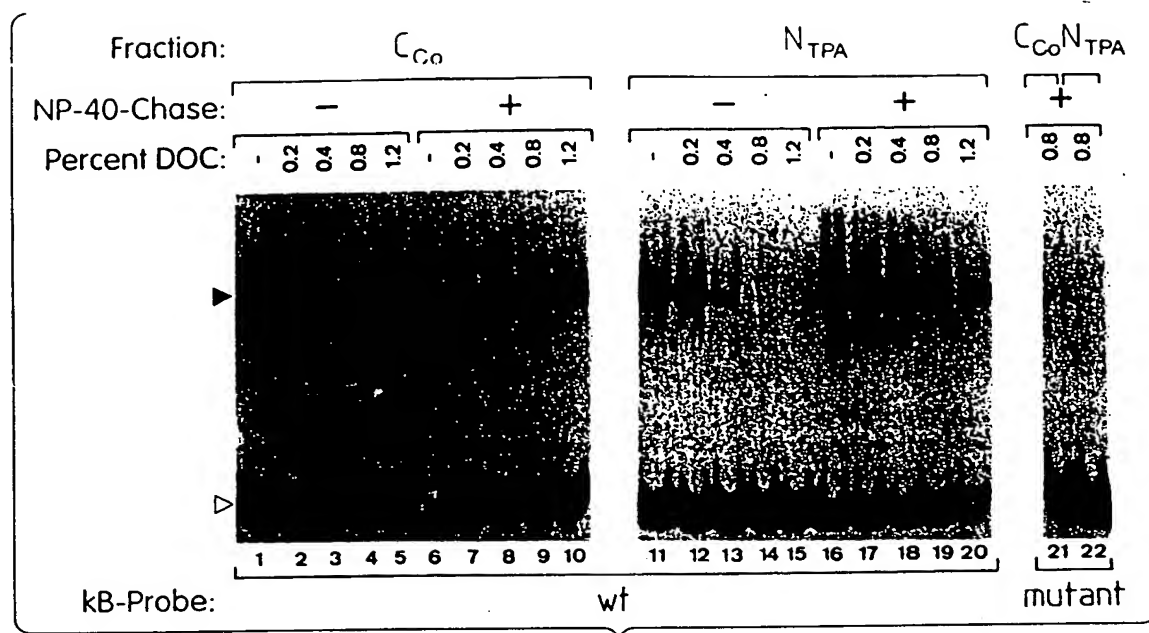


Fig. 31A

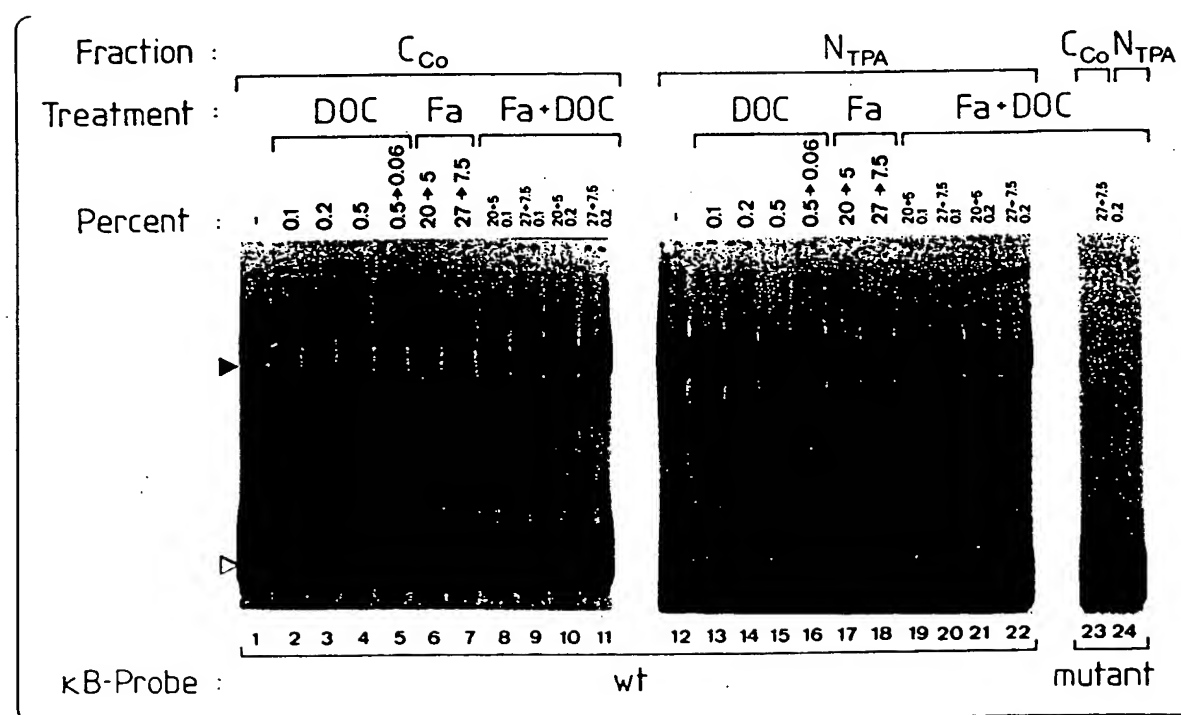


Fig. 31B

46/58

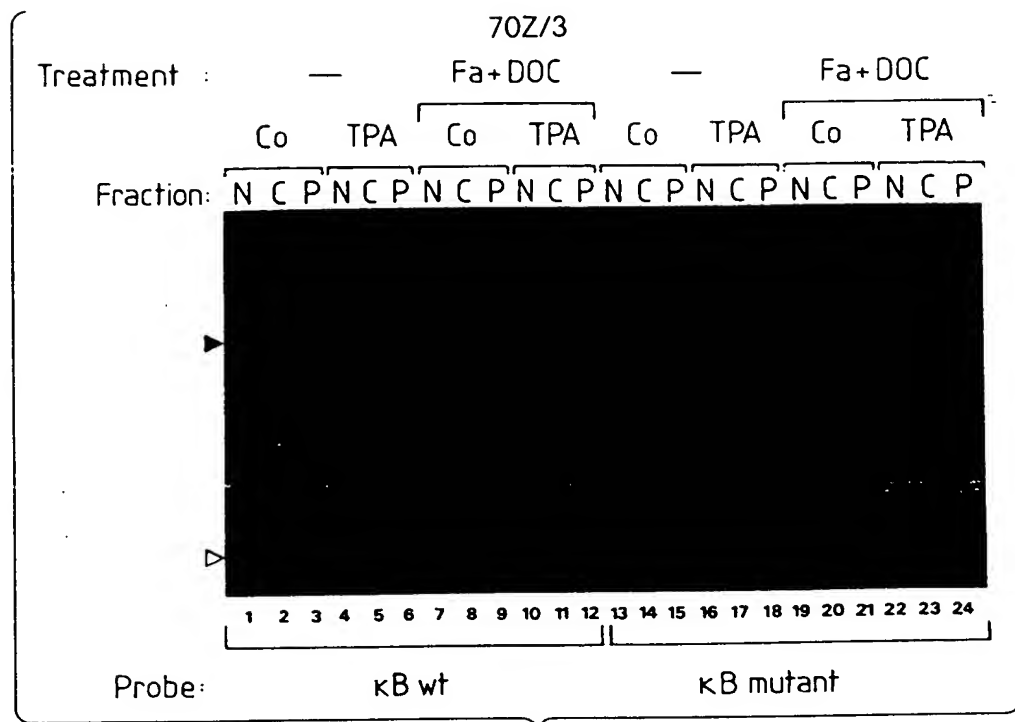


Fig. 32

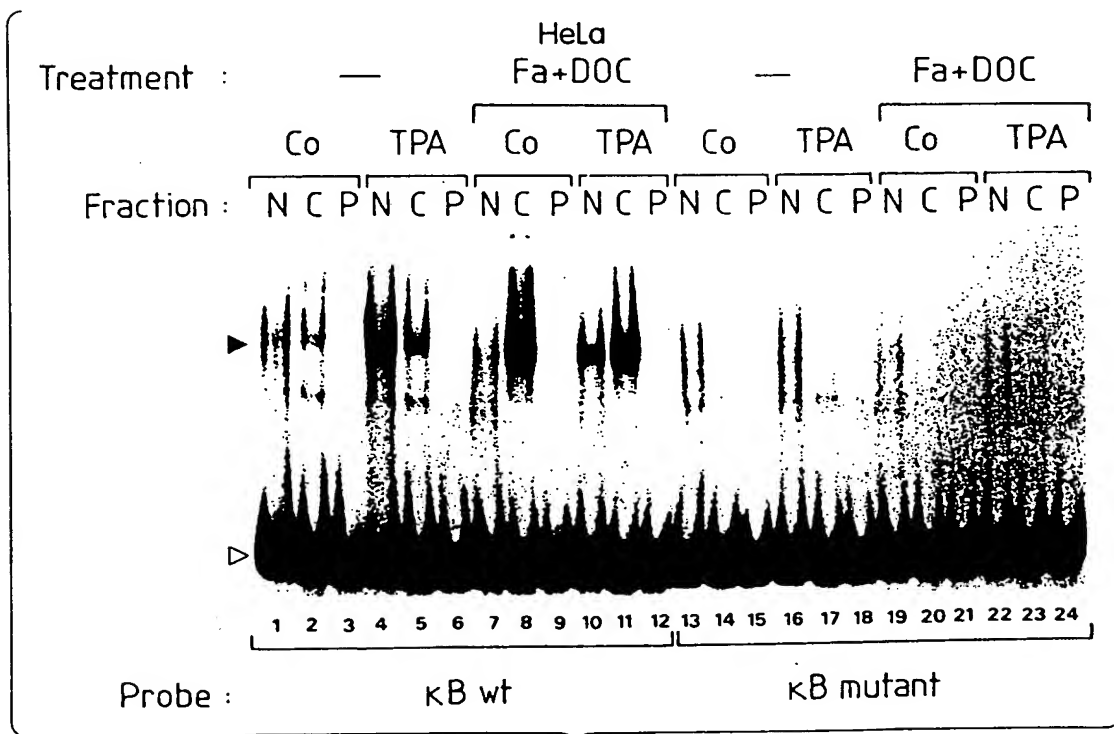


Fig. 33

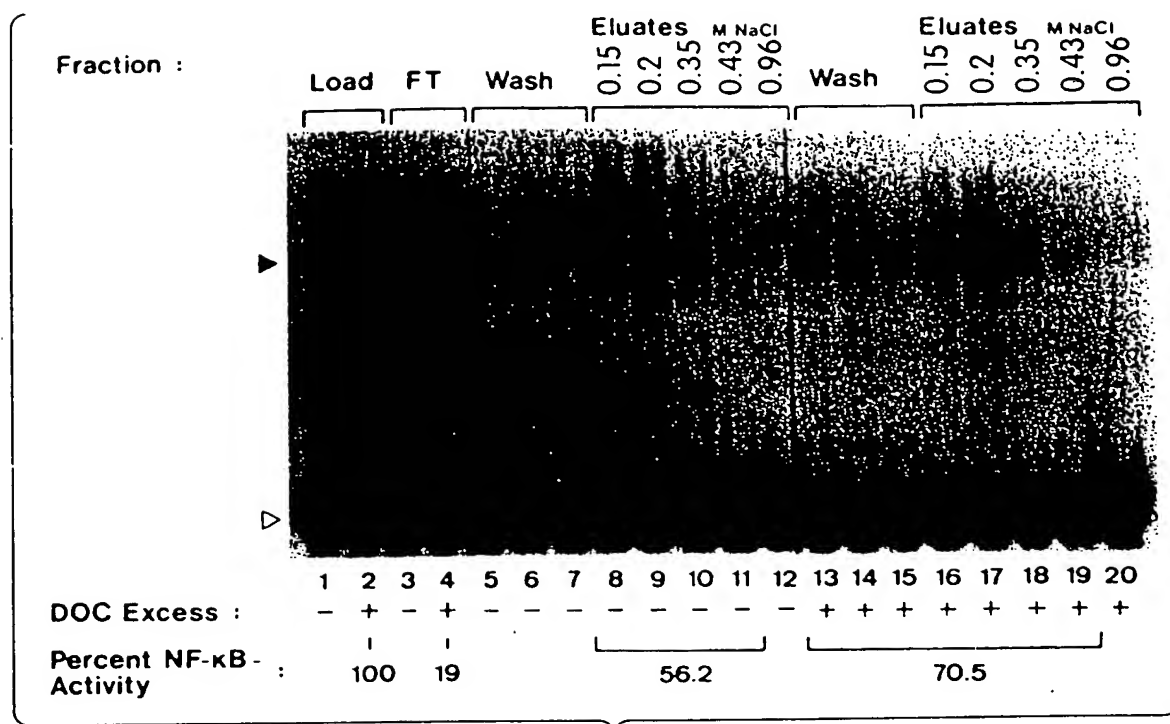


Fig. 34A

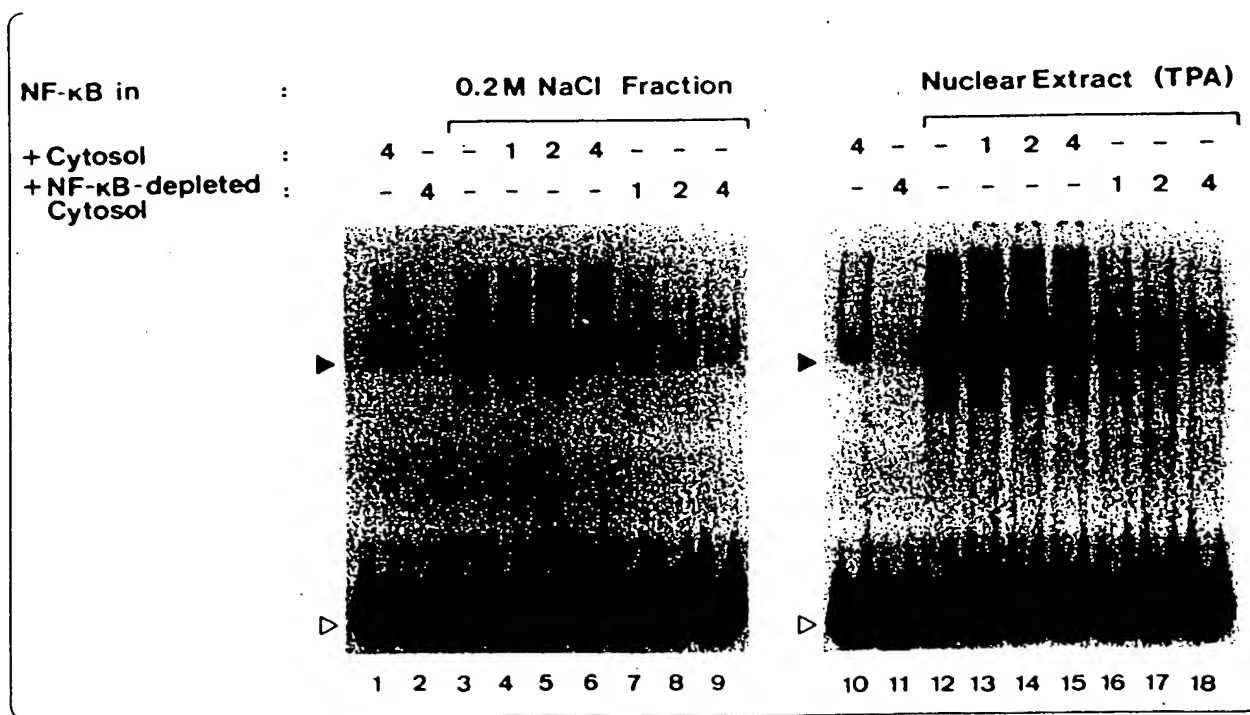


Fig. 34B

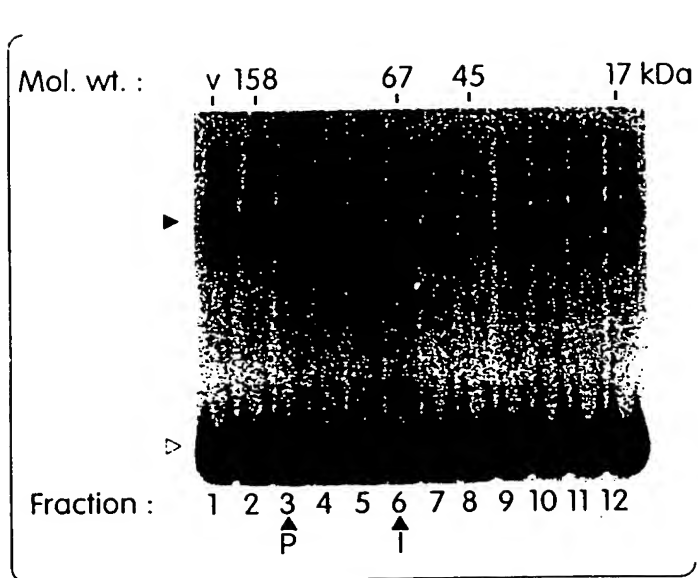


Fig. 35A

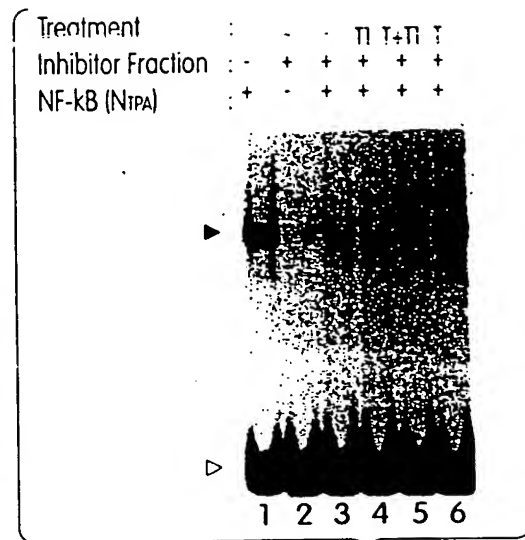


Fig. 35B

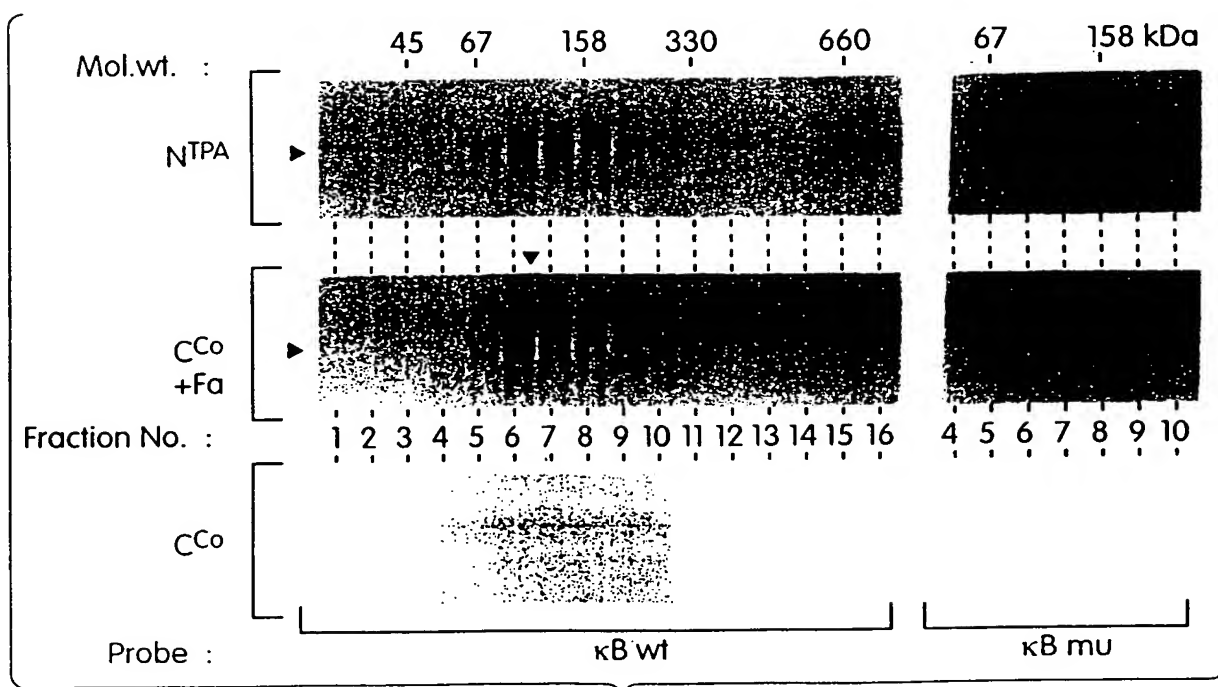


Fig. 35C

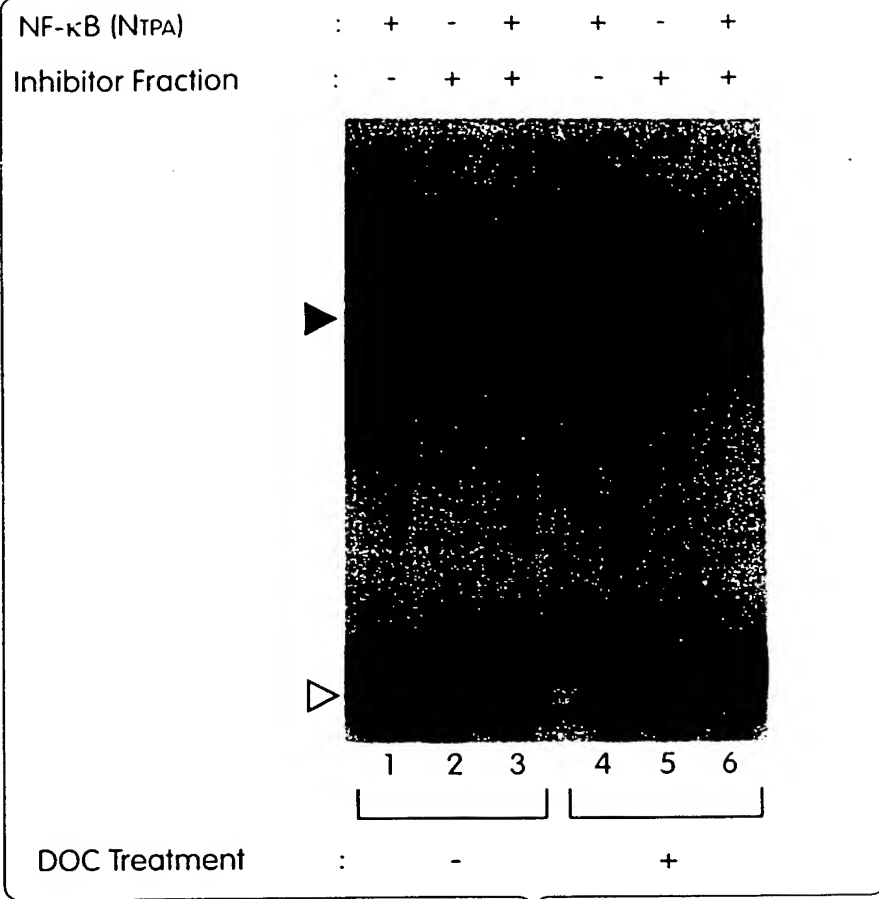


Fig. 36A

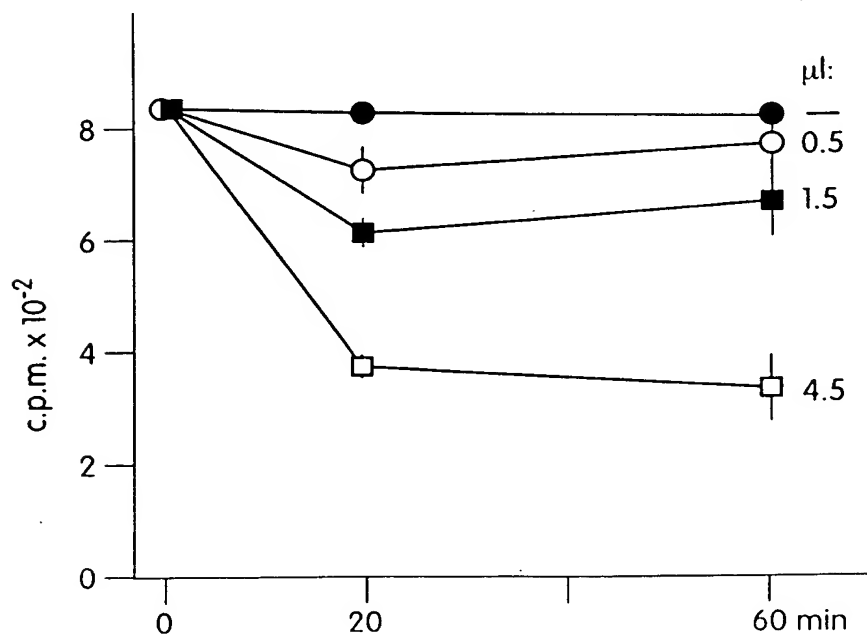


Fig. 36B

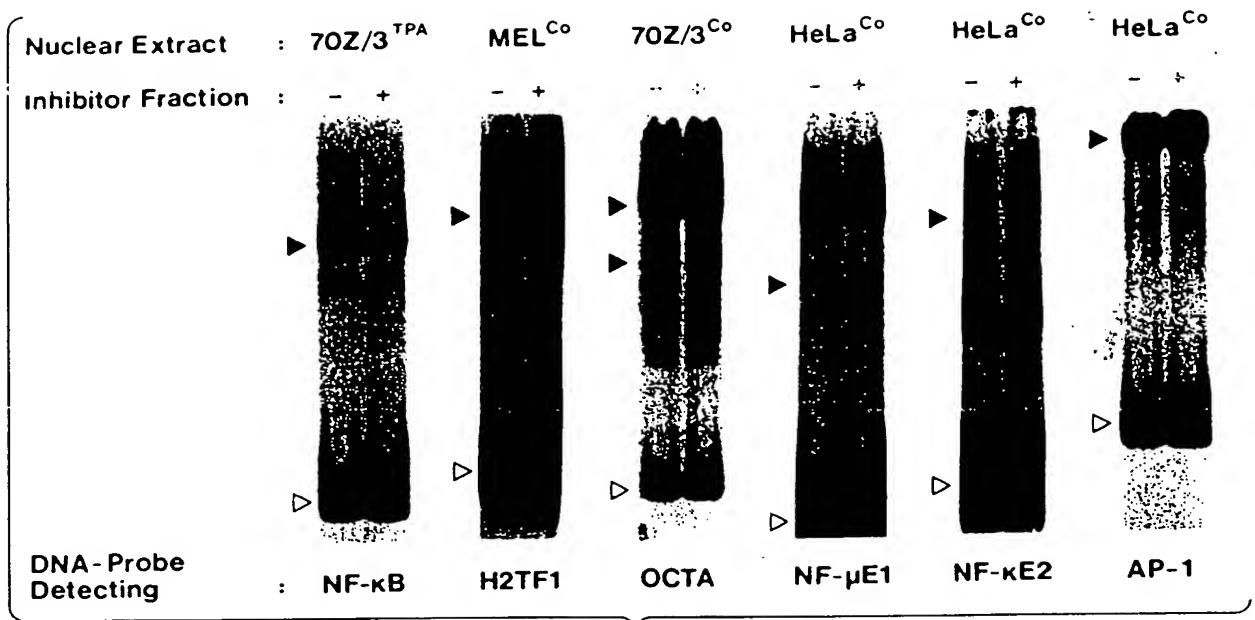


Fig. 37A

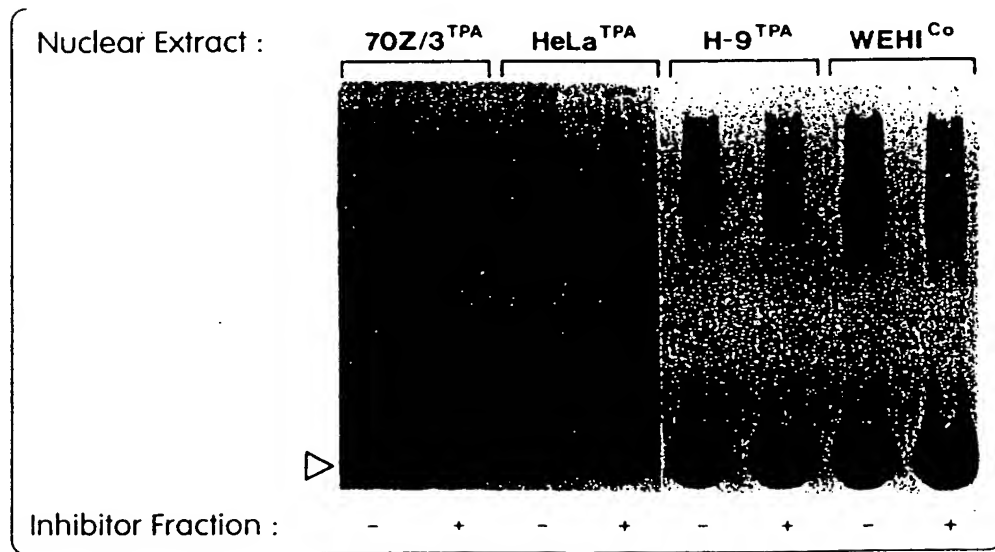


Fig. 37B

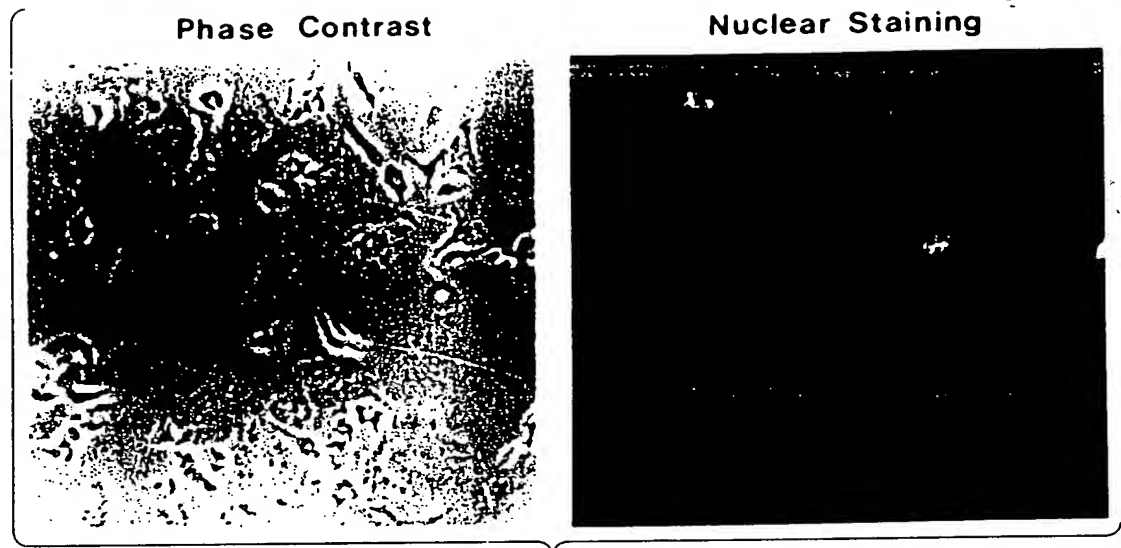


Fig. 38A

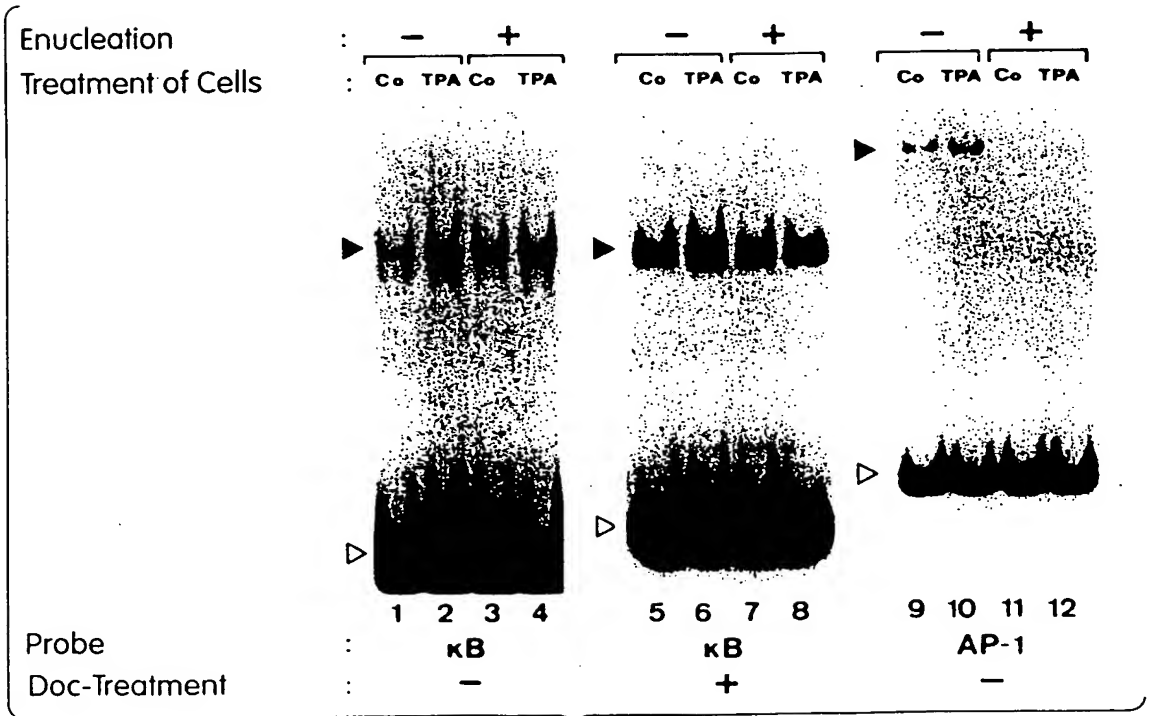


Fig. 38B

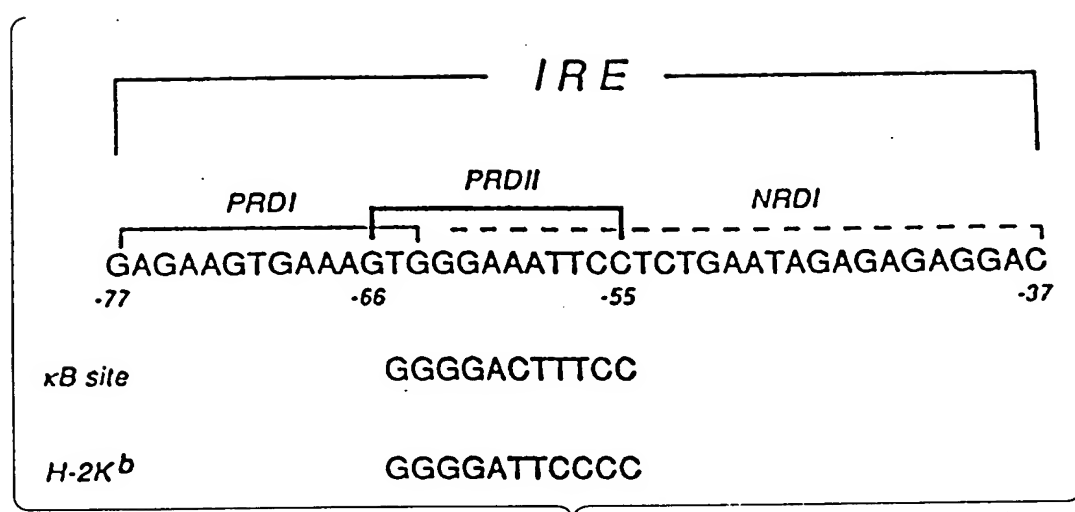
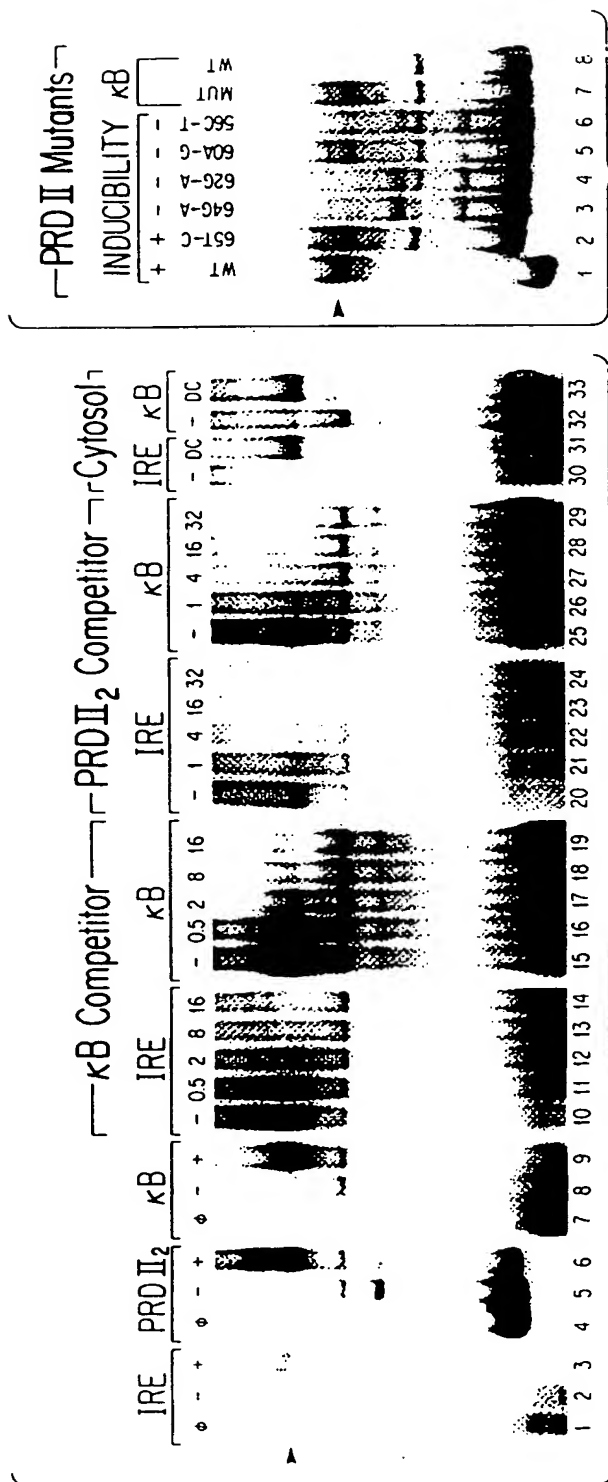


Fig. 39



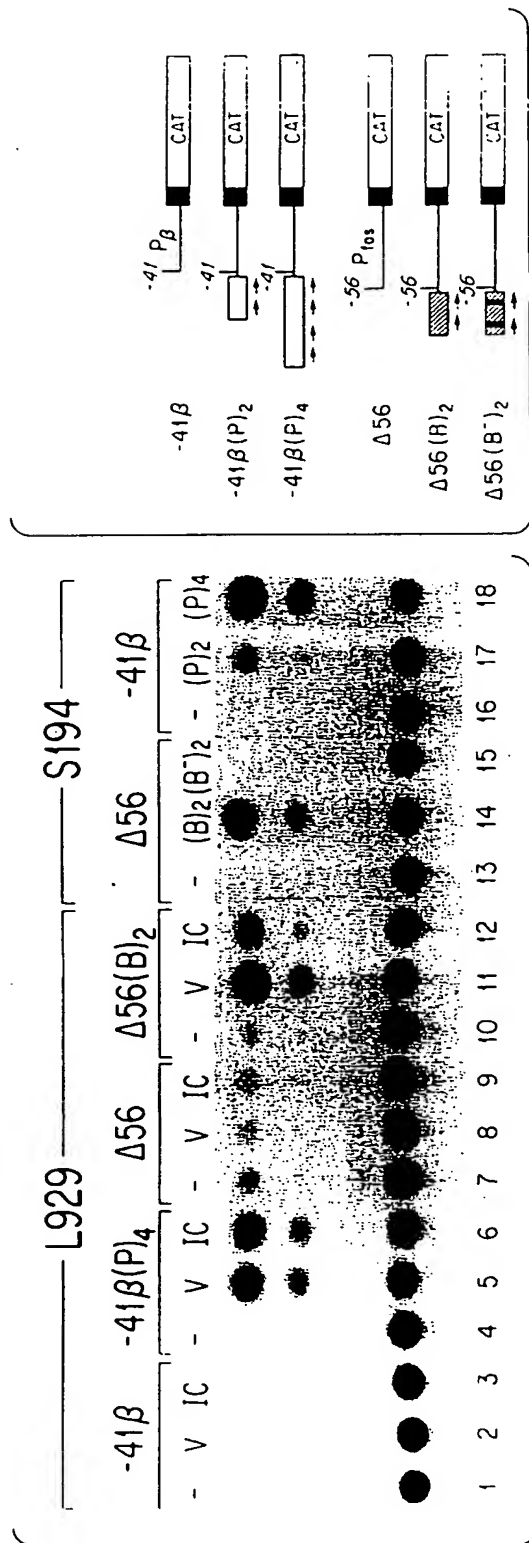


Fig. 41A

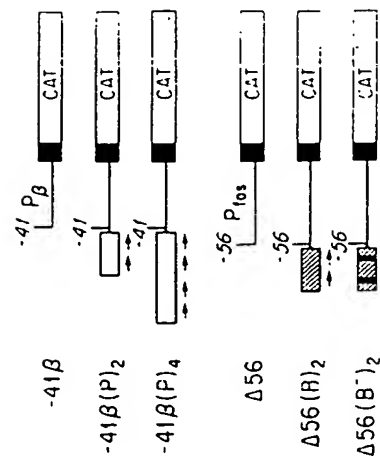


Fig. 41B

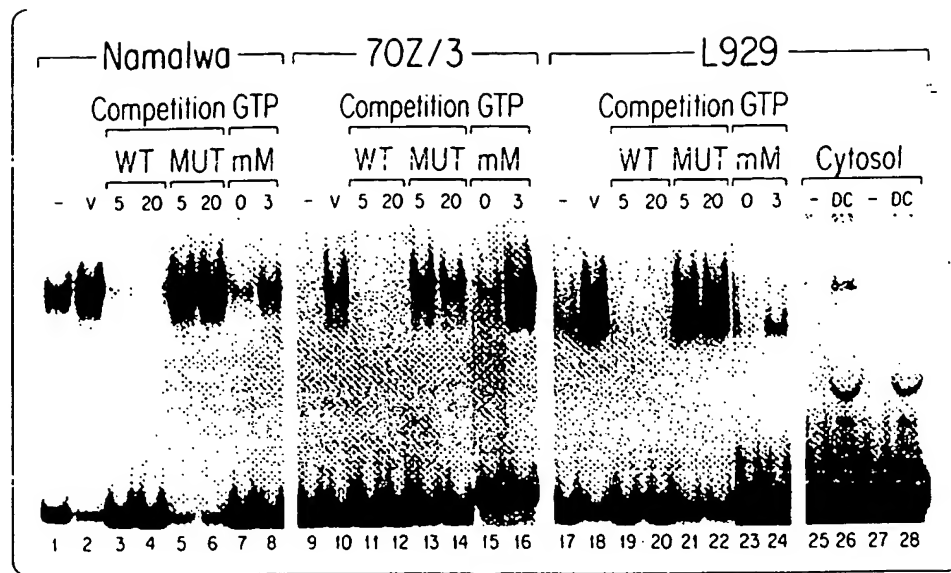


Fig. 42A

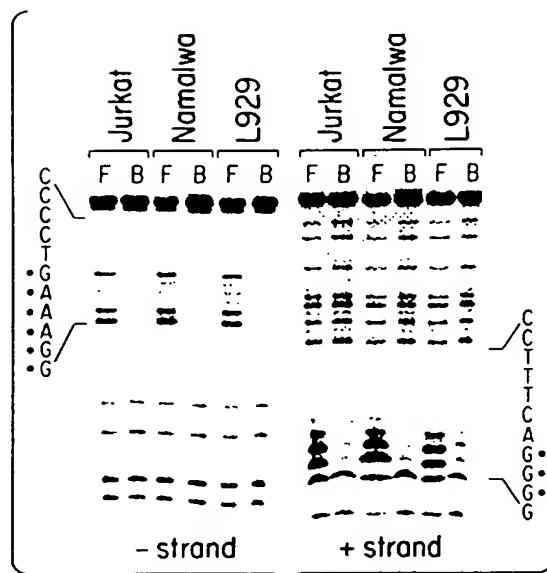


Fig. 42B

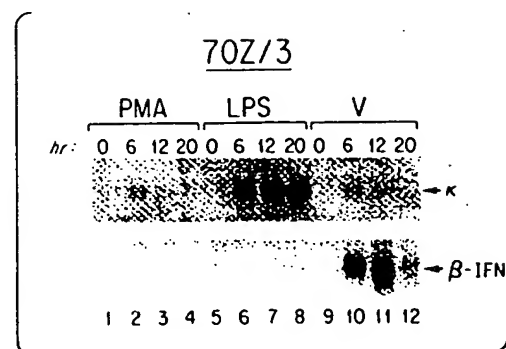


Fig. 42C

AAACATTGCAACCTTATAAAAAATTAAACTATTTCGACAAATGCCGCAGAAAGGAAATCTGTGTTTAGGTGCTGGTGGG
AAAAACACTATCTCCAGCTTGTAGGTTTGAGCATCACCCAGAACCACTTGATGAAATCACACACAGAAACAAGTAGAGG
AGGCAACTGTGAATCGTGGGGCTATAAAGCCATCAAGGGATCTGATGAAAGAACCCCGAGACGAAACCCCCACC
CCCCACAACAGGATCGGCACCCAGAGTTCAACAAGTGGCTGACTTTGTTAAACACTACGTGGGAACCCCATAGTC
CCGGATCAGTAGTTGCACAGCCCCCTCCCCGACAGACTACACCGCTGTTTGTCTGATCCTTGCCACCCCATGCTCT
CCTCCCAGCCCCCTTCTGCTCCTCTGTCTCTGCGGCGCTGGATTGAACCGCACACAAGTCTGCATCTGGCACGAA
TTCTCATGGGAGCCACGTCATGAGGTACGTGTTGCACACCTATCACAAGAGTCTTGCAAGTTCTGACTCTCCTGA
GCTCGGTGGGAAAGTCTGGATAGTACCTCCCCCTCTCTGCCACAAAAGCAGCCCCACATTACAAAGTTCCCAAAG
CAGGTCTATTGAGTTTCTCTTCAGAGCGAGCCTTTGTCAAAACACACCTGGAGGGGGAGTCTCACCTCTCCCCAGC
AACTCAGATCAGTGCCCTTATTTTAAATGCTCCGGCCCCAATCCTGAGTGCTGCTGGGTTTGTGGGCTGCCGTTTTGT
TGAACCTCCCCCTCCCCAACGCCCTGGCATTTGCAATTAAAACTGGGATTCAGGGGCCAAATTCAGGCCCA
GAGTGAGCAGTAGGATGTGGAGCTCAAAGCAGAGTTGCACCTGCTGACCCCCAGCCTGAAATTTGGTTCACCCAGAG
ACTACAAGTCAGAAAGGCATGTTTAGAAAGAGGCATGCTAAGGACTGATGTTGGAACGGCCCAATTTGTCCCCACCA
GCACAGTGGGGAAGCTGGACAGAGAAAGGAAGGATCCATAGAGATGTGAACCCAGAAATCAGTCGTGTTGAGC
TCTGGGTATATCACTACATGTTAACTCTTGCAAGACCGTTTGCCCAAGGCTTTTGGTACCAAGGTTAGAGTTAC
ATTAACCAACAACCCAGAGAGGAACCTGAGGTTTATGACCCCCCCCCCCCCAAAGGTTAGATTTCTGCCCGAGTATA

M T P P P K V R F L P S I

AAAGGGGGGGGAAGGGGGGGGCTTGGTTCATTCCCTTCACTGTGTGACCGAAGTTTGCTTTATTGTTAAACA
K G G E G G G P W F I S L H C V T E V L L L F V N I

TCCTGAATTACCCGTCGTTTCCAGTCTTCATCGTCTGTTGTCAGGCCACTGGAGGAATTCCCCGTCCTCGGAAC
L N Y P S F S S L H R A V V R P L E G I P R L G T

P P P A P A A A P R R P A S S A A M L S A H R P A
GCCGGCCGACAGCAGCGCGCGCGCGCGCGCGCATGCTAGCGCCACCG:CCCCGC

Figure 43 (continued)

GAGCCGCCCGCTGGAGGGCTGCGAGCCCGCGCAAGGAACGGCGGGCTGCTGCCGCCGACGACCGCC
E P P A V E G C E P P R K E R Q G G L L P P D D R H

ACGACAGCGGGCTGGAATCCATGAAGGAGGAGGAGTACAGGCAGCTGGTGGGGAGCTGGAGGACATCCGCTGCA
D S G L D S M K E E E Y R Q L V R E L E D I R L Q

GCCCCGAGCGCCCGCGCGCACGCCCTGGGCCAGCAGCTACCGAGGACGGGACACTTTTCTCCACTTG
P R E P P A R P H A W A Q Q L T E D G D T F L H L

GCGATCATTCAGAGGAAAGCCCTGAGCCTGGAGGTATCCGGCAGGCCGCTGGGGACGCCGCTTCCGAACT
A I I H E E K A L S L E V I R Q A A G D A A F L N F

Ank. I

TCCAGAACAACTCAGCCAGACTCCGCTCCACCTGGCGGTGATCACGGACCGCGGAAATCGCCGAGCACCTGCT
Q N N L S Q T P L H L A V I T D Q A E I A E H L L

Ank. II

GAAGGCTGGCTGCGACCTGGATGTCAGGGACTTCCGTGGGAACACCCCGCTCCACATCGCCTGCCAGCGGCTCG
K A G C D L D V R D F R G N T P L H I A C Q Q G S

Ank. III

CTCCGACGCTCAGTGCTCCTCACGACGACTGCCAGCCCCACCACTCCTCGCGTCTGCAGGCCACCACTACA
L R S V S V L T Q H C Q P H H L L A V L Q A T N Y N

ACGGCCATACATGCTCCATTGGCATCTATTCAAGGATACCTGGCTGTTGTGGAATACCTGCTGTCTTAGGAGC
G H T C L H L A S I Q G Y L A V V E Y L L S L G A

Ank. IV

AGATGTAAATGCTCAGGAGCCATGCAATGGGAGAACAGCACTACACTTGGCCGTAGACCTTCAGAACTCAGACCTG
D V N A Q E P C N G R T A L H L A V D L Q N S D L

Ank. V

Figure 43 (continued)

GTGTCACTTCTGGTGAAACACGGGCCAGATGTGAACAAAGTGACCTACCAGGGCTACTCCCCATACCACTTACAT
V S L L V K H G P D V N K V T Y Q G Y S P Y Q L T W

GGCAGAGACAACGCCAGCATACAGGAGCAGCTGAAGCTGCTGACCCACAGCTGACCTGCAGATACTGCCCGAAAGT
 A E T T P A Y R S S 354

GAGGATGAGGAGAGCAGTGAATCAGAGCCAGAGTTCACAGAGGATGAACTTATGTATGATGACTGCTGTATTGGAG
 GAAGACAGCTGACATTTTAAAGCAGAGGTTTCTGTGAGAAAGTGACTGTACATATGTATAGGAAATAAGCCTGA
 CTTTCTTCATTTAAAAAGAAAGTCTATACTCGAAGGAGAAAAAGTACTGAGATACTACACTGCCCCAGCCAGGAGC
 ACATCATGCTAACAGGTTCCATGCTCTGACCTGTAAGTAACGGGATGGGATGTGTAACATCGTTAAGAGATC
 AGTGAACATGCACACCATCTGATAAAGAGCCACGTTATCTAATTTCTGCCCACATGAGGATAACGGACTGCACGT
 CCAATGTGCTGTTGTCAGAAATGCGTTTGAGAGCTGCCCTTGACACTAAGTGTGAGGAGTGCCTCATCCCCCT
 CGGTGGCAAGACAGGCTTGACAAAAACGTCCCATCTGCTTGAAGACTGTGAGGTTGGCATTAGGTTGAGGCACCTGCT
 TGCCCCTGCTCCCTGACCCCTGGCTGCTCAGGGTTGAGGAGTCCGACCATGGGAGAGGTGACCTGGCTGCTGGGAGG
 AAGGTAGCAATGATGTTAACTGTGGGCATTTGGAAACTGTGTGTTTCACACCATGTGTGTCTATAATTGCTACACTT
 TTTAGCAACTGTATAGAATGTAATACTGTACATCTTTGTTTATAATTATTIIGGTACCTGTGAGATATGTATTTA
 TTAAAAAAGGCAGATTCTGTAAAAA